Mercedes-Benz

The new Mercedes-Benz C-Class

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The new Mercedes-Benz C-Class: Superior safety, comfort and agility

Stuttgart -- Safety, comfort, agility: these are the outstanding attributes of the new C-Class. The Saloon excels with a many-faceted product concept which meets the expectations of various customer target groups. With the AVANTGARDE, ELEGANCE and CLASSIC lines, Mercedes-Benz offers three individual models whose emphasis is on either comfort or agility. All model variants share the latest, state-of-the-art technology. This includes the newly developed AGILITY CONTROL package with situation-responsive shock absorber control and the PRE-SAFE® preventive occupant protection system. There is a choice of four and six-cylinder engines with up to 12.5 percent more output than the preceding model, accompanied by up an to six percent lower fuel consumption.

With a length of 4581 millimetres, the Saloon is 55 millimetres longer than its predecessor. The body width has increased by 42 mm to 1770 millimetres, and the wheelbase by 45 mm to 2760 millimetres. These dimensions create the conditions for a generously sized interior, and therefore more comfort. The front shoulder room has increased by 40 millimetres, for example.

The design of the new C-Class is based on the modern Mercedes idiom, which reflects the technical superiority of automobiles bearing the star with taut lines and large, tranquil surfaces. The pronounced wedge-shape of the front end serves to emphasise attributes such as agility and performance. For the first time in a Mercedes saloon, the radiator grille is used as a distinguishing feature to position the model variants more clearly. Three extended, horizontal louvres and a big centrally positioned Mercedes star characterise the **AVANTGARDE** model as a traditional design feature of sporty Mercedes models. Together with the sporty, high-quality appointments, this feature emphasises the youthful, agile appearance of this C-Class. This sporty presence can be enhanced even further with the **AMG**

sports package, which includes striking front and rear aprons plus side skirts.

In the **ELEGANCE** model Mercedes-Benz employs a three-dimensional, louvred radiator grille with a high-gloss paint finish to accentuate other brand-typical attributes such as comfort and luxury. The **CLASSIC** model in the new C-Class is intentionally more restrained and traditional, but offers the same technical innovations as the other two model variants.

This "product-in-product" concept enables Mercedes customers to accentuate individual choices, and configure the C-Class to suit their personal taste and lifestyle even more emphatically than before. All the models offer the same, extraordinary driving experience that the saloon provides by virtue of further technical improvements. Both by its outstanding long-distance comfort and its dynamic handling, the C-Class sets new standards in this market segment.

Shock absorbers automatically adapt to the driving situation

AGILITY CONTROL – this is the term used by Mercedes-Benz for all new and further developments that improve both comfort and agility in equal measure. This standard package includes the **AGILITY CONTROL suspension**, which controls the shock absorber forces according to the driving situation: when driving normally with low shock absorber impulses, the damping forces are automatically reduced for a noticeable improvement in ride comfort – but without any compromise in handling safety. When driving more dynamically, the maximum damping forces are set and the car is effectively stabilised. The **AGILITY CONTROL steering** of the new C-Class has a ratio of 14.5, and is therefore six percent more direct than the steering of the preceding model. The likewise included **AGILITY CONTROL gearshift** (only available when manual transmission is fitted) reflects the sporty character of the C-Class with a short travel and precise shifts.

ADAPTIVE BRAKE is another new development in the area of running gear technology. This is based on the technology of the S-Class and provides additional support functions for even more safety and comfort. Examples include Start-Off Assist for uphill gradients, priming the braking system in critical situations and light contact to dry the brake discs in wet conditions.

Output of the supercharged four-cylinder engine increased

With a remarkable boost in output by up to 12.5 percent and an increase of around 18 percent in torque, the engines also do more than their bit to create the lively nature of the new C-Class. The four and six-cylinder units not only excel with powerful responsiveness, but also contribute to the excellent ride comfort of the saloon with their improved smoothness.

Mercedes-Benz has paid particular attention to further development of the four-cylinder engines. In the petrol range, the **C 200 KOMPRESSOR** develops 15 kW more than before. It has an output of 135 kW and generates its maximum torque of 250 newton metres from 2800 rpm. These modified engines considerably improve the performance and fuel consumption of the four-cylinder models. When accelerating from standstill to 100 km/h, the C 200 KOMPRESSOR is 0.5 seconds faster than its predecessor. Improvements in fuel consumption are equally impressive: the combined fuel consumption of the C 200 KOMPRESSOR has been reduced by 0.5 litres per 100 kilometres.

Greater performance from the four-cylinder CDI engine

Further development of the four-cylinder diesel power unit was also high on the development agenda. The engineers in Stuttgart have made further improvements to the engine, turbocharger and common-rail direct injection, modifying more than 90 components. As a result of these measures the **C 220 CDI** develops a peak output of 125 kW (previously 110 kW), and generates a torque of 400 newton metres from 2000 rpm -- around 18 percent more than before (previously 340 Nm). In the New European Driving Cycle (NEDC) the C 220 CDI is able to travel 100 kilometres on just 6.7 litres of fuel.

The modern V6-engine in the new C 280 is an ideal blend of power, torque and efficiency, making a strong and smooth 170 kW paired to the seamless 7G-TRONIC transmission, the world's only seven-speed automatic transmission, as standard equipment.

The latest Mercedes inventions ensure maximum safety

During the course of its development, the new C-Class successfully passed more than **100 crash tests**, including the particularly demanding, in-house impact tests of which some go well beyond the legal requirements. Passing these is a precondition for the highest accolade in automobile safety: the Mercedes star. Occupant protection is based on an intelligently designed **bodyshell**, 70 percent of which consists of high-strength and ultra high-strength steel. Compared to the previous series, Mercedes-Benz has enlarged the deformation zones even further and improved energy flows. The front-end structure of the new C-Class has four independently acting impact levels, which enable forces to be distributed over a wide area while bypassing the passenger cell.

The safety technology in the interior has been complemented with the very latest protection systems. Eight **airbags** are included as standard equipment: two adaptive airbags for the driver and front passenger, two **sidebags** in the front seat backrests as well as **sidebags** for the rear seat row along with two large **windowbags** which extend from the A to the C-pillar during a side impact. The driver, front passenger and the passengers on the outer rear seats also benefit from **belt tensioners** and **belt force limiters** as standard. The standard head restraints operate on the **NECK PRO principle**: during a rear-end collision the padded surfaces are pushed forward within milliseconds to support the heads of the driver and front passenger at an early stage. This significantly reduces the risk of a whiplash injury.

PRE-SAFE® is another special feature of the new Mercedes Saloon. This preventive occupant protection system (fitted as standard equipment) is linked to active safety systems such as ESP® and Brake Assist, and is able to recognise critical driving manoeuvres at a very early stage. If the C-Class is in danger of crashing as a result of heavy under or oversteering, or if the driver needs to brake very heavily in a dangerous situation, PRE-SAFE® activates certain systems as a precaution to prepare the vehicle and its occupants for an impending accident. Accordingly the passive safety phase does not begin when the impact has already occurred, but before an impending collision.

Interior design "cast from a single mould"

When developing the **cockpit**, Mercedes designers took their lead from the sporty sector and included clearly laid-out dial instruments such as may be found in roadsters or coupés. Silver-coloured bezels, black dial faces, white markings and glowing orange needles perfectly combine form with function for a high value impression and easy legibility.

Equally clearly laid out and well-arranged, the two-tone **dashboard** and centre console of the new C-Class form a harmonious unit in line with the "design cast from a single mould" principle. The same applies to the integration of the **colour display** at the upper centre of the dashboard. This is perfectly positioned within the driver’s line of vision, but can also be covered or folded away as required, without switching off the radio, navigation system or other units linked to the display. If the pivoting cover of the display aperture is closed, the infotainment units continue to operate.

New control concept for clarity and comfort

The central colour display is part of the new **control and display concept** which the new C-Class has adopted from the luxury-class Mercedes models. Its major advantage is rapid access to frequently used functions, which means that the driver does not need to relearn, is able to maintain familiar habits and feels

at home immediately. All the control and display elements necessary and important during a journey are located in the cockpit, i.e. in immediate proximity to the driver.

In the same way, linking the standard **multifunction steering wheel** with the instrument cluster is an important precondition for rapid access to a wide range of information and functions in the driver's direct line of vision. Other functions such as infotainment are shown by the display at the centre of the dashboard. The driver and front passenger are able to control the radio, navigation system or telephone by using a **controller** on the centre console, or access the main menus using direct selection keys.

COMAND provides voice operation, a music server and DVD navigation

The Audio 20 and COMAND APS systems are a range of newly developed, optional **infotainment** units for C-Class passengers. They all feature a keypad for entering telephone numbers and radio frequencies, as well as a **Bluetooth interface** which wirelessly connects the mobile phone to the hands-free system.

The multimedia system **COMAND APS** offers even more functions than before in the new C-Class. One new feature is an Australia / New Zealand-wide navigation system whose data are stored on a hard disc (30 gigabytes). The high-resolution maps are shown on a colour display (7-inch) which pivots away and disappears beneath a cover at the touch of a button. Other functions of COMAND APS include a music server with a four-gigabyte memory, an integrated 6-disc changer, a DVD-player for video and audio, and the **LINGUATRONIC** voice control system, which Mercedes-Benz has likewise improved further: the driver no longer needs to spell out the names of countries, towns or roads, but is able to speak them as whole words. The voice control system is just as convenient when selecting radio stations or entries in the telephone directory.

The C-Class is the bestseller in the Mercedes lineup

The new C-Class saloon replaces a model series of which more than 1.4 million units have been sold since spring 2000. All in all, Mercedes-Benz has delivered more than two million of the Saloon, Estate and Sports Coupé models in the previous C-Class to customers all over the world. This makes the C-Class the bestseller in the Mercedes-Benz passenger car range. Germany is the largest market for the C-Class, accounting for around 30 percent of worldwide sales.

During its seven years in the Australian market, the outgoing W203 C-Class range was the choice of more than 32,000 customers, making it the most popular passenger car in the German car maker's Australian catalogue.

Australian Pricing

Model	**Recommended Retail Price* (AUS $)**
C 200 Kompressor	$56,990
C 220 CDI	$60,274
C 280 Petrol V6	$84,974

* Excludes dealer delivery and statutory charges

The new C-Class range is sharply priced for the Australian market.

The C 200 Kompressor starts the new C-Class range at $56,990, followed by the C 220 CDI at $60,274 and the C 280 petrol V6 at $84,974.

As a point of comparison, the outgoing C 180 Kompressor (fitted with the Sport Edition Package as standard equipment) and C 200 Kompressor sedans (model code W203) were priced at $58,490 and $64,490 respectively. Clearly, the all-new C 200 Kompressor is strongly positioned in this hotly-contested Australian buying segment, starting at $56,990.

Compared to the outgoing C 220 CDI (RRP $68,990), the all-new C 220 CDI ($60,274) offers even more value to customers.

The all-new C 280 petrol V6 is a new model addition to the Australian catalogue and does not replace an outgoing equivalent.

All prices quoted are recommended retail only and do not include dealer delivery and statutory charges. Prices for the C 220 CDI and C 280 have been amended in line with the recent change to the Luxury Car Tax (LCT) threshold (increased from $57,009 to $57,123) in Australia (effective 01 July 2007). They were originally announced at $60,300 and $85,000 respectively on 19 June this year.

- end of short version -

Appointments and technical highlights of the new C-Class*

Cornering lights: This function of bi-xenon headlamps and the Intelligent Light System provides more safety on junctions and when driving slowly on tight bends.	Optional in conjunction with bi-xenon headlamps
ADAPTIVE BRAKE: This newly developed braking system has support functions for even more safety and comfort.	Standard
Adaptive front airbags: The front airbags deploy in two stages, depending on accident severity.	Standard
AGILITY CONTROL package: A selective damping system adapts the shock absorber responses to the driving situation. The AGILITY CONTROL package also includes more direct steering and gearshifts with a short travel.	Standard
Active Light System: The bi-xenon headlamps follow the driver's steering movements.	Optional in conjunction with bi-xenon headlamps

Bi-xenon headlamps: Gas-discharge lamps for dipped and high beam improve safety at night.	Optional
Bluetooth interface: The mobile phone is wirelessly linked to the hands-free system.	Optional in conjunction with Audio 20 or COMAND APS
COMAND APS: The data of the navigation system are stored on a hard disc for even faster route calculation and better representation of the route on the display. A music server for up to 1000 tracks is also integrated.	Optional
ESP®: This safety system is able to reduce the risk of skidding on bends, and warns of pressure loss in the tyres.	Standard
Headlamp Assist: A sensor on the windscreen automatically switches the headlamps on when darkness falls.	Standard
Belt force limiters: This technology reduces the belt forces acting on the occupants during a crash.	Standard for the front and outer rear seats
Belt tensioners: Seat belt slack is instantly taken up during a crash to reduce the forward movement of the occupants.	Standard for the front and outer rear seats
KEYLESS-GO: The doors and boot lid can be opened without a key. The engine is started at the touch of a button.	Optional
THERMATIC automatic climate control: This improved system controls two temperature zones and features numerous adjustments for individual climatic comfort.	Standard
THERMOTRONIC luxury automatic climate control: This system provides three-zone climate control, and	Optional

includes other functions such as diffused, draught-free ventilation and a combination filter with an air quality sensor.	
Luxury multifunction steering wheel: The radio, telephone, navigation system, display and other units can be operated from the steering wheel.	Standard
Paintwork: Nano-technology makes the paint finish more scratch-resistant and ensures a glossier sheen.	Standard
LINGUATRONIC: The voice control system operates the radio, CD/DVD-player, CD/DVD-changer, navigation system and telephone – now by whole-word commands.	Optional
Memory function: Three memory settings are stored for the driver and front passenger. The settings for the steering wheel and exterior mirrors are also stored.	Optional in conjunction with electrically adjustable front seats

Multicontour seats: Inflatable air chambers enable the seat contours to be adjusted to the individual occupant.	Optional
NECK-PRO head restraints: Crash-responsive head restraints support the heads of the driver and front passenger at an early stage during a rear-end collision, reducing the risk of a whiplash injury.	Standard
Panoramic sliding roof: A large glass surface extending from the front to the rear window. The front section slides to the rear at the touch of a button.	Optional
PARKTRONIC: Ultrasonic sensors assist the driver when parking.	Optional
PRE-SAFE®: Anticipatory safety measures are taken to protect the occupants if an accident risk is detected.	Standard
Sidebags: These side airbags reduce the risk of injury in a lateral collision.	Standard
Seven-speed automatic transmission 7G-TRONIC: The world's only automatic car transmission with seven ratios is optionally available with the V6-engines.	Standard with V6 engines
Sound system: A multi-channel system with innovative digital technology provides surround-sound on every seat. A unique quality of Dolby 5.1 sound is experienced with the DVD-player.	Optional
Windowbags: This large airbag extends from the A to the C-pillar like a curtain during a side crash.	Standard

*Selection **in the Euro NCAP countries

Superior agility

- **Superior: perfect synthesis of safety, comfort and agility**
- **Striking: AVANTGARDE with styling features from the sporty Mercedes models**
- **Seminal: debut of the latest safety systems from the luxury class**

How do you make a bestseller even more successful? How do you consolidate a leading position even further? How do you combine automotive emotion and intelligence even more closely?

These were no easy tasks for the product planners, designers and engineers when it came to creating the concept for the new C-Class. Foresight was needed to assess developments in the markets, sensitivity to reconcile the wishes of present customers with the expectations of new buyer target groups, and expertise to achieve new technical masterstrokes at the previous, high level. In short, the C-Class project was an exciting and interesting mission in every respect. And a challenge that was mastered with real aplomb: the Saloon has gained a new profile, with a more self-assured, imposing and stylish presence than ever before.

While the C-Class is and remains a typical Mercedes-Benz with everything that traditionally characterises the Stuttgart brand, it offers even more. Its special feature is a synthesis of agility and comfort which has never previously been achieved in this vehicle class. This interaction creates the conditions for a new, extraordinary driving experience.

The new C-Class possesses a product profile which meets the needs of different target groups. It is comfortable without seeming sedate, sporty without becoming uncomfortable and youthful without being adolescent.

In other words, the C-Class is superior in every respect – full of character and autonomous.

Lines: clear differentiation between different characteristics

As before, there is a choice of three design and equipment lines to emphasise the typical attributes of the new Saloon more strongly, and to suit its appearance to personal tastes and lifestyles. In the case of the new C-Class, this individuality is even more important than in the preceding model, however. Mercedes customers are able to highlight the aspects of e.g. comfort or agility even more than before, and the design and equipment lines reflect the different characteristics, and therefore the lifestyles of their drivers, even more expressively. Thanks to these lines, the C-Class is a "product-in-product" concept.

The youthful, progressive line is named **AVANTGARDE**. This is where the sporting genes of the Mercedes-Benz brand come to the fore, especially by virtue of the radiator grille with its three high-gloss louvres and large, centrally positioned Mercedes star. This design element has long been recognised as a typical feature of the more sporty Mercedes models by car lovers. It now embellishes the Saloon as an unmistakable expression of its inherent attributes, namely agility, power and performance. Standard 17-inch light-alloy wheels in a five twin-spoke design, wide-base tyres in size 225/45 R 17, bird’s-eye maple interior timber trim and other stylish details accentuate the sporty, superior appearance of the AVANTGARDE model, which also does full justice to well-proven C-Class attributes such as safety and long-distance comfort.

In the **ELEGANCE** line the emphasis is on the traditional values of a Mercedes saloon – and especially on comfort. The external appearance is enhanced by the attractively integrated, chrome-embellished radiator grille and chrome inserts in the bumpers, side rub strips and boot lid. Exotic burr walnut timber trim brings typical Mercedes flair to the interior, which also provides a welcoming atmosphere with its warm colour tones and

combinations. In this line too, the C-Class remains true to its basic character and offers not only typical Mercedes comfort, but also the handling agility that makes the driving experience perfect.

The **CLASSIC** line is designed to appeal to male and female drivers who do not wish to reveal the potential of their C-Class at first glance. Both inside and out the Saloon is characterised by classic restraint, however its extensive range of standard appointments includes all the technical innovations that make for the superior presence of this new Mercedes model where safety, comfort and agility are concerned:

- **Safety**

  The new C-Class is the safest car in this market segment. No other saloon in this class offers so many safety innovations and has been so uncompromisingly designed to reflect real accident scenarios as the new C-Class. The comprehensive Mercedes safety concept **PRO-SAFE™** goes well beyond compliance with standard crash test regulations, taking every aspect of safe driving into account -- from accident prevention with systems such as **Brake Assist**, **ESP®** and **ADAPTIVE BRAKE** to occupant protection with two-stage **front airbags**, front and rear **sidebags**, **windowbags** and crash-responsive **NECK-PRO head restraints** in the front, and right up to the rapid recovery of occupants after an accident. The preventive protection system **PRE-SAFE®** developed by Mercedes-Benz is fitted as standard equipment to all models in the new C-Class range, which makes the C-Class the world's only car in this market segment to feature this trailblazing safety technology as a standard feature.

- **Comfort**

  Like safety, comfort has always been a basic attribute of all Mercedes models. On the basis of its enormous experience, the Stuttgart brand has developed the most stringent specifications for all comfort-related aspects. The new C-Class meets these **Mercedes codes**, thereby offering an unparalleled level of comfort in this vehicle class. In addition to a low-vibration **bodyshell** and smooth, quiet **engines**, this is particularly

assisted by the **AGILITY CONTROL package**. This includes an innovative damper system which automatically adapts the shock absorber responses to the driving situation. Mercedes-Benz has also improved the standard THERMATIC with **two-zone climate control**, as well as the **seats**.

Î **Agility**

Thanks to the selective damping system, the **AGILITY CONTROL package** adapts itself to the driver's individual style or the current driving situation and achieves a synthesis of excellent comfort and agile handling. The more direct steering and the new **AGILITY CONTROL gearshift** with its short, precise shift travel likewise ensure significantly more dynamic driving pleasure. The agile driving characteristics of the new C-Class are not least characterised by the further improved **engines**. The four and six-cylinder units develop up to 13 percent more **output** and up to 18 percent more **torque** than before.

The standard appointments* of the **CLASSIC** line at a glance:

- PRE-SAFE® anticipatory occupant protection system
- AGILITY CONTROL suspension with selective damping system
- Airbags for the driver and front passenger
- Acceleration skid control (ASR)
- Armrest with roller-top compartment
- Electrically adjustable and heated exterior mirrors
- Outside temperature display
- Brake Assist
- ADAPTIVE BRAKE braking system with Start-Off Assist
- ESP®
- Headlamp assist
- Power windows (4)
- Belt tensioners and belt force limiters for the front and outer rear seats
- Air-conditioned glove compartment
- Map pocket on the rear of the driver's seat backrest
- THERMATIC two-zone automatic climate control
- Light-alloy wheels (C 200 KOMPRESSOR)
- Steering column adjustable for height and reach
- Lumbar support in driver's seat
- Multifunction steering wheel with twelve keys
- Foglamps
- NECK-PRO head restraints for driver and front passenger

- Projector-beam headlamps with halogen technology
- Tyre pressure loss warning system
- ELCODE locking system with infrared/radio remote control
- Sidebag for driver, front passenger and outside rear passengers
- Bag hooks in the boot
- Front seats electrically adjustable for height and backrest angle
- Tinted glass
- Windowbags
- Central locking with crash sensor
- PARKTRONIC
- Trim in piano lacquer look

*Selection; **in Euro-NCAP countries

The six-cylinder C 280 is available in the **ELEGANCE** line as standard, with the **AVANTGARDE** line as a no-cost factory-fitted option. These include the following features (versus the CLASSIC line):

ELEGANCE*	**AVANTGARDE***
• Waistline trim strip in polished aluminium	• Waistline trim strip in polished aluminium
• 205/55 R 16 wide-base tyres	• 225/45 R 17 wide-base tyres
• B-pillars painted in high-gloss black	• B-pillars painted in high-gloss black
• Rear seat unit with centre armrest and twin cupholder	• Rear seat unit with centre armrest and twin cupholder
• Burr walnut exotic wood trim	• Black bird's eye maple timber trim
• Full leather upholstery in C 280	• Full leather upholstery
• Radiator grille in high-gloss atlas grey with chrome inserts	• Radiator grille in high-gloss black with chrome inserts and Mercedes star
• 7 J x 16 light-alloy wheels	• 7.5 J x 17 light-alloy wheels
• Lighting package incl. illuminated front footwells, front and rear reading light, front and rear courtesy lights	• Lighting package incl. illuminated front footwells, front and rear reading light, front and rear courtesy lights
• Foglamps with chrome bezels	• Foglamps with chrome bezels and twin louvers
• Leather-covered shift/selector lever	• Leather-covered shift/selector lever
• Seat design with vertical upholstery structure	• Seat design with horizontal upholstery structure
• Bumpers, side rub strips and boot lid with chrome inserts	• Bumpers, side rub strips and boot lid with chrome inserts

*Selection

Optional extras: new systems for safety, comfort and infotainment

Buyers of the new C-Class benefit from the technological leadership of the Mercedes-Benz brand, with a choice of optional innovations from the luxury class for even more safety, comfort and agility during even more entertaining journeys – from the **panoramic sliding roof** and the **surround-sound system**.

Mercedes-Benz has developed well-proven comfort and driver support system further, specifically for the C-Class. The luxury automatic climate control system **THERMOTRONIC** now ensures individual climatic comfort in three zones of the interior, for example: the driver, front passenger and rear seat occupants can set the temperature to suit their own preference – a first in this vehicle class. The highly successful **multicontour seats** (available from autumn 2007), which make a major contribution to long-distance comfort by virtue of inflatable air chambers, also feature new technology which ensures consistent seat contour settings.

A new Mercedes generation of **audio and navigation systems** also celebrates its world debut. This features the latest technology, for example a **Bluetooth interface** for the mobile phone, DVD or hard disc navigation and LINGUATRONIC voice control. All units are linked to a **colour display** positioned at the centre of the dashboard, where it is well within the driver's line of vision. If required the display can be made to disappear beneath a flap, while the radio and/or navigation system continue to operate.

The optional extras* for the new C-Class at a glance:

- Vision Package (incorporates bi-xenon headlamps with cornering light function and headlamp cleaning system, Glass tilting/sliding sunroof and Harmon Kardon LOGIC7® surround sound system)
- COMAND APS, incl. hard disc navigation, LINGUATRONIC voice control and music server, on request also with 6-DVD changer
- KEYLESS-GO
- Leather upholstery (standard fitment on C 280)
- Multicontour front seats (available from 4th quarter 2007)
- Panoramic sliding roof

- Electric roller blind for the rear window
- AMG sports package with sports seats in the front
- THERMOTRONIC with three-zone climate control
- Electrically adjustable front seats with memory function

*Only a selection from the factory-fitted option catalogue

AMG sports package: even more dynamism and individuality ex-factory

The C-Class benefits from real added value in terms of dynamism and sportiness with the AMG sports package. A combination of attractive and exclusive features, of which many are not available individually, gives the saloon an even more striking presence even at standstill.

AMG bodystyling, 17-inch AMG light-alloy wheels, sports seats and a three-spoke steering wheel convey considerably more individuality and guarantee even more driving pleasure for mile after mile.

All the features of the AMG sports package at a glance:

Exterior:

- AMG bodystyling consisting of a front and rear apron plus side skirts
- 17-inch AMG light-alloy wheels in a high-sheen, six twin-spoke design, with size 225/45 R 17 tyres at the front and 245/40 R 17 at the rear
- Large, perforated front brake discs with aluminium brake callipers and Mercedes-Benz lettering
- Speed-sensitive sports steering
- Sporty engine note for petrol models

Interior:

- Sports seats for driver and front passenger
- Upholstery in leather
- Three-spoke steering wheel
- Steering wheel shift paddles (with automatic transmission)
- Aluminium-look shift lever with leather boot
- Sports pedal cluster of brushed stainless steel with black rubber studs
- Black roof liner
- Floor mats with AMG lettering

Art in motion

- **Effortlessly superior: new Mercedes style expressing superiority and power**
- **Sporty: first Saloon with the radiator grille of Mercedes sports cars**
- **Stylish: Interior features with legendary attention to detail**

Some call it love at first sight, others refer to "magic moments": the first eye-contact, a handshake, an image that remains unforgettable. Brief yet lasting encounters or experiences.

Moments like these are never forgotten -- and they have a defining influence. They arouse emotions that often remain alive for a long time: empathy, fascination, desire.

A first encounter with the new C-Class is just such a fateful moment. It makes you stop in surprise and come closer. Curiosity gives way to admiration, which turns into enthusiasm. Images are stored in the mind: the striking front end, which exudes self-assurance with its wide, steeply angled radiator grille. The side aspect, whose harmonious interplay between surfaces and lines reflects poise and assurance. And finally the short, stylish rear end with its unmistakably athletic lines.

In other words the saloon immediately captures the attention, but that is not all: as is the case with every Mercedes-Benz model, the aesthetic appeal of the new C-Class is not only based on visual signals on first acquaintance, but above all on the long-term effect. Even at second, third or fourth sight, the design remains both multi-facetted and exciting, constantly exhibiting a new magnetism which keeps the emotions alive.

It is in this way that love at first sight becomes an intensive and lasting relationship. Welcome to design quality à la Mercedes-Benz.

A hallmark with a long tradition: SL radiator grille for the AVANTGARDE line

Effortless superiority, sportiness and style: the typical characteristics of the new C-Class are reflected in the design. The front end plays a major part in this – specifically with its pronounced arrow shape, which expresses forward energy, agility and performance, and the radiator grille which is flush-fitted into the bonnet and bumper, almost completely filling the space between the headlamps. Accordingly this styling feature achieves an unmistakable dominance, while its width and steeply angled position lend a muscular, self-assured appearance to the Saloon.

There is more: as an identifying feature and characteristic, the radiator grille has a very special significance in the new C-Class. This is because for the first time in a saloon, Mercedes-Benz has used the radiator grille to position specific attributes even more clearly:

- Effortless superiority and style go hand in hand in the **CLASSIC** and **ELEGANCE** lines. In the ELEGANCE model, for example, a three-dimensionally formed radiator grille reflects attributes such as solidity and comfort – but also a touch of luxury.

- The **AVANTGARDE** line has a visually even more striking radiator grille. This attracts immediate attention with a large, centrally positioned Mercedes star supported by three horizontally extended, high-gloss trim sections embellished with chrome. These are typical design features of sporty Mercedes models, and are no less elegant and stylish for that.

In this way Mercedes-Benz has remained true to its aim of retaining traditional elements from the stylistic gene-pool of the brand, reinterpreting them and using their strong symbolism to create a fresh, up-to-date presence. The radiator grille with its large, centrally located Mercedes star has a more than 50 year-old tradition. At the time it was adopted directly from the racetrack, and was used for the first series production sports car

from Mercedes-Benz in 1954: the legendary 300 SL "Gullwing". The new C-Class has incorporated this styling feature into the AVANTGARDE line, given it a modern interpretation and thereby stated emphatically from where it derives its genes.

Forms with finesse: front end cast from a single mould

The muscular presence of the Saloon is accentuated by the perfectly integrated front bumper with its discreet spoiler lips, the foglamps positioned well to the outside and the wide air intake. Here too, the different lines have individual features: in the CLASSIC and ELEGANCE lines the lower air intake is given substance by three black louvres, while the AVANTGARDE line is distinguished by a black-painted, sports car-like perforated mesh. As additional "eyecatchers", the ELEGANCE and AVANTGARDE lines feature chrome surrounds on the foglamps and in the lower section of the bumper covering.

Like the radiator grille, the headlamps of the new C-Class convey a message that is in line with the outstanding attributes of this new series, namely precision. The projector-beam headlamps are shrouded in coloured, translucent cylinders reminiscent of high-quality camera lenses, which underlines the high-tech character of the saloon. The clear lenses afford a view of the lighting technology within, and accentuate the sparkling effect of the headlamps in strong sunlight. If the C-Class is equipped with bi-xenon headlamps, the translucent areas of the cylinders are even larger than with halogen headlamps and characterise the appearance of the Saloon even in the dark.

Just as elegantly, the flat, upper headlamp covers with their fine chrome strips follow the contour of the bonnet to the front, right up to the edges of the lenses. This design finesse and painstaking attention to detail results in a harmonious blend of form and function.

Effortless superiority paired with style: interplay between taut lines and calm surfaces

In 2005 Mercedes-Benz introduced a new design idiom which struck a balance with traditional design features while perfectly reflecting the technical superiority of cars bearing the Mercedes star. The focus was on clarity of expression: the designers were guided by the principles of purism, which were interpreted in keeping with the times. This means concentrating on what is important, i.e. surfaces and lines, and dispensing with all superfluous embellishments or visual detours.

Less is more: the dialogue between tautly drawn lines and large, tranquil surfaces is enough to convey the message of effortless superiority and serenity. The new C-Class is a further representative of this design idiom.

This new Mercedes style is obvious when the Saloon is viewed from the side. Here the design is characterised by just two basic elements, namely large, elegantly contoured surfaces and striking lines which lend a structure to these areas. Mercedes designers needed no more than this to lend a formal structure to the side aspect and create a symbolic effect. The shoulderline following the waistline is an important visual reference point which suggests power and solidity. It forms a wide, muscular "shoulder" supporting the side windows, pillars and roof, forming a continuous line from the front to the rear end and elegantly stretching the body while suggesting refined power.

At the front this muscular shoulder supports the slim A-pillar, the starting point of the third characteristic line in Mercedes passenger cars: the roofline. This describes a graceful yet powerful arc over the bodyshell and defines the line of the C-pillar, then gently dips down with this to join the rear end. A fine chrome strip along the upper limits of the side window apertures accentuates this arching effect.

The so-called character line below the shoulderline is even more striking. This emerges organically from the front wheel arch and rises towards the rear, thereby expressing dynamism, forward energy and elegance. At the same time this typical Mercedes styling feature forms a boundary between the convex and concave door surfaces – between light and shadow.

Door handles painted in the vehicle colour blend into the side aspect, ensuring that the eye is drawn to the more important design features.

For all the elegance created by these surfaces and lines, the sporty attributes of the new C-Class are by no means neglected either. This is ensured by the new body proportions, with 55 millimetres more length than the preceding model, as well as the wider track, large wheel arches and prominent wings, which intentionally appear more tailored to the body contours and therefore arch over the wheels like the toned muscles of a high-performance athlete. The wheel arches are filled by 17-inch wheels – standard equipment for the AVANTGARDE line and the AMG sports package (see page 86) – to emphasise the powerful and athletic overall impression even further.

Rear end with a width effect and smoothly blended lines

The styling elements of the side aspect harmoniously blend into the rear end when the shoulderline and C-pillar come together and initiate a flowing line to the rear. Below the waistline the character line flows into the horizontal contour of the boot lid, elegantly combining the side and rear end design. The purpose of these lines is to shorten the rear overhang in visual terms, creating a stylish, sporty rear end.

As at the front, the rear aspect of the new C-Class is designed to emphasise the width of the body to lend it formal expression. The striking spoiler lip on the boot lid, which flows harmoniously into the wings and the character line, the boot handle (chrome in the ELEGANCE and AVANTGARDE lines) and the attractively integrated bumper lining are the most important features

emphasising the impression of width. The eye is also drawn to the rear light clusters as islands in this calm surface, pausing briefly before moving on to follow the intriguing interplay of the body lines.
The following metallic finishes are available in addition to the standard, non-metallic calcite white, fire opal and black:

obsidian black
iridium silver
tanzanite blue
periclase green
palladium silver
cubanite silver
sanidine beige
carmine red
tenorite grey

Metallic paint finish is available for all models in the new C-Class range.

Interior with flair: design and technology in harmony

After arousing love at first sight, one of the main tasks of interior designers is to create a lasting relationship and maintain the love affair over many years. Mercedes designers see the interior of a passenger car as a living space where drivers sometimes spend a great deal of their time. This makes a stimulating yet homely atmosphere increasingly important. Once again the new C-Class shows how this aim can be achieved while retaining all the functional aspects.

The principles of effortless superiority, sportiness and style reflected in the exterior design also guided the hands of the interior designers. When developing the cockpit, Mercedes designers took their lead from the sporty sector and included clearly laid-out dial instruments such as may be found in roadsters or coupés. Silver-coloured bezels, black dial faces, white markings and glowing orange needles perfectly combine form with function for a high value impression and easy legibility. In the AVANTGARDE line, a metallic-look backplate accentuates the special character of this model variant.

Equally clearly laid out and well-arranged, the two-tone dashboard and centre console of the new C-Class form a harmonious unit in line with the "design cast from a single mould" principle. The same applies to the integration of the colour display at the upper centre of the dashboard. This is perfectly positioned within the driver’s line of vision, but can also be covered or folded away as required, without switching off the radio, navigation system or other units linked to the display. This enables the driver to focus on what is important at all times, deciding for himself how much information he wishes to read off – an advantage which makes itself particularly felt when driving at night.

The centre colour display is part of the new control and display concept which the new C-Class has adopted from the luxury-class Mercedes models (see page 67). Thanks to its central control unit, the so-called controller, this allows numerous switches and keys to be dispensed with which would normally be required to access and operate the many functions of the infotainment units. Intelligent ergonomics ensure that the driver has everything within his line of vision and easily accessible.

The specialist term for this aspect of automobile design is "User Interface Design". This refers to the clear layout and design of displays, switches and controls in the dashboard, enabling the driver to understand their use intuitively while harmoniously integrating them into the overall design concept, thereby combining ergonomics with aesthetic appeal.

Direct control keys in the centre console mean that the driver still has direct access to important functions. At the touch of a button, the radio, telephone or navigation system are switched on and the relevant user interface appears in the display. The volume control, station search function and telephone keypad can also be accessed immediately. The controller is available for all other control functions, which can be rotated, pressed or tilted by the driver or front passenger to access the menus. The presentation of the display information was also a task for the designers: the font, graphics and layout present a uniform picture, are logically structured and

meet the Mercedes requirement for easy, intuitive and self-explanatory operation. Making the operating procedure a gratifying experience in itself.

Design with a feel-good effect: door linings as a design and colour context

The door linings continue the horizontal, two-part division of the dashboard and form a framework for an interior in which the occupants feel even more safe and secure. Depending on the specifications, this feel-good effect is reinforced by the two-tone colour scheme of the interior, with the darker contrasting colour continued from the upper section of the dashboard to the door linings as a feature extending right into the rear. A slim chrome strip separates the waistline from the control arrays and decorative surfaces in the door centre panels. Here too design and technology are in harmony, as the door openers and the controls for the electric seat adjustments (optional) with their high-quality trim form a unit which is appealing to both the eye and the touch.

Depending on the line, the interior trim is of aluminium or exotic wood, or has a high-quality piano lacquer look. For an individual colour scheme, the warm tone-in-tone combination of savanna beige/cashmere beige is available for the ELEGANCE line, while more striking colour highlights can be created if specifying a leather interior for the AVANTGARDE line:

CLASSIC	ELEGANCE	AVANTGARDE
Black*	Black*	Black**
Black/reef grey*	Black/reef grey*	Black/reef grey**
	Savanna beige/cashmere beige*	Black/cognac brown**
		Black/sahara beige**

*ARTICO man-made leather interior; ** leather interior

High-tech on and under the skin

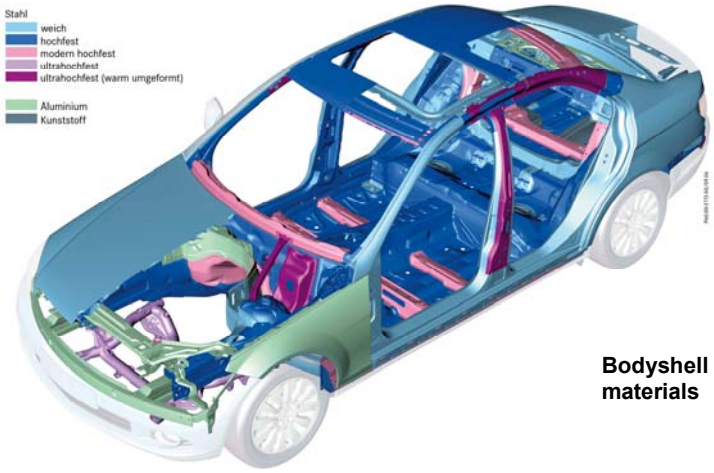
- **Strong: 70 percent of body panels made from high-strength steel**
- **Robust: torsional resistance increased by 13 percent**
- **Streamlined: best Cd value for notchback saloons in this class**
- **Innovative: Intelligent Light System as a first in this vehicle class**

Automobile development means reconciling conflicting aims, and this is especially true where bodyshell engineering is concerned. In addition to high operating strength and a long service life, the aim is to meet a large number of sometimes contradictory requirements at the same time. On the one hand the bodyshell must form a robust backbone for the running gear, ensure precise handling and prevent uncomfortable vibrations, and on the other it should be light in weight and streamlined in the interests of a favourable fuel consumption. It must also satisfy the most stringent crash test standards, comply with the regulations pertaining to pedestrian protection and be easy to repair.

The bodyshell of the new C-Class is the perfect "all-rounder" in these respects. It uncompromisingly meets all these requirements, demonstrating the enormous experience of Mercedes engineers in the field of body engineering. Intelligent concepts and well-conceived details have been used to resolve conflicting aims and reconcile seemingly contradictory ideals.

Lightweight construction is a good example: despite considerable increases in safety, spaciousness and comfort, the bodyshell of the new C-Class weighs eight kilograms less than that of the preceding model. These results are based on the careful selection of materials on the well-tried Mercedes principle of "the right material in the right place". Preference has been given to high-strength steel alloys, as these provide maximum strength for minimum weight and ensure the greatest possible safety. Around 70 percent of all the steel panels in the bodyshell of the new C-Class are made from

these steel alloys – a percentage unprecedented in passenger car development.
A special mention should be given to the latest, ultra high-strength steels which have only been developed in recent years. These achieve an extremely high tensile strength which exceeds that of conventional steels by a factor of three or four, which makes them indispensable when it comes to meeting the stringent Mercedes requirements with respect to durability and safety. The proportion of these ultra high-strength alloys in the bodyshell of the new C-Class is around 20 percent.



Bodyshell materials

Aluminium and plastics are the two other lightweight materials used by Mercedes-Benz where they offer the most advantages. Aluminium components in the new C-Class include ...

- the front wings
- the front-end module member and crash boxes
- the parcel shelf panel in the rear
- the door modules.

The spare wheel recess is of plastic.

In addition to these high-tech steel alloys, the use of high-strength structural adhesives makes a major contribution to the strength of the bodyshell. The adhesive creates a firm bond between the steel flanges, significantly

increasing the load resistance and transfer of forces in safety-related areas. In this way adhesives supplement conventional processes such as spot/laser welding. The total length of high-strength bonded seams in the bodyshell of the new C-Class is around 60 metres.

Low-stress joining techniques and the latest spot or laser welding processes make additional soldered connections and MAG-welding seams between the steel panels almost completely unnecessary – a major contribution to the durability of the bodyshell. Modern joining techniques also guarantee a high level of dimensional precision. The flanges at the edges of the steel components are designed in such a way that any tolerances are already compensated when the panels are brought together, allowing them to be welded together with low stresses.

For the first time Mercedes-Benz has used the new "RobScan" joining process, which is based on the latest laser welding technology. This enables a high working speed to be combined with narrow welding flanges for an even better crash performance. This process is used in the door, side wall and rear-end areas – with a total of around 640 welding seams.

Body structure: robust basis for safety and comfort

This intelligently designed bodyshell creates the major conditions for the high level of ride comfort that distinguishes the new C-Class from other saloons in this market segment. Torsional resistance – an important indicator for the vibration characteristics of the bodyshell – has improved by around 13 percent compared to the preceding model. The engineers in Sindelfingen also paid particular attention to the connecting points between the running gear and the bodyshell, which are required to withstand very high forces. These were specifically reinforced as necessary, to ensure that road-induced vibrations are not transferred to the body at the expense of driving enjoyment.

These robust structures are not least provided in the interests of safety as well. For example, the rigidly bolted integral member on which the engine, steering, front axle and transmission are mounted acts as part of the front deformation zone in the new C-Class; for this purpose it has been extended forward, forming an additional impact plane at the lower level: during a severe frontal crash this high-strength steel component is able to deform, absorb energy and conduct forces directly into the floor structure via special tubular members (see page 51).

The structure and integration of the front end is also new. This mainly consists of a strong aluminium cross-member and two single-piece aluminium crash boxes inserted and bolted into the side members. The other components of the front end are also bolted together, which means they can be replaced at favourable cost after an accident.

Firewall: new, four-part concept for maximum impact protection

The firewall is a four-part construction. This enables Mercedes engineers to vary the material thicknesses according to vulnerability in an accident, while making a further contribution to weight reduction. As the load acting on the firewall during a frontal crash is greatest in the lower section, the sheet steel used here is up to 56 percent thicker than at the top.

On the left and right in front of the firewall, there are two compartments housing the starter battery (right) and the central electrics (left) among other units. These areas are separated from the engine compartment by a partition wall of sheet steel and aluminium. A special melamine resin foam application on the inside of the partition ensures effective noise and heat insulation.

Passenger cell: floor structure with continuous longitudinal members

During a frontal, rear-end or lateral collision, or during a rollover, the passenger cell remains a practically undeformable structure which provides

an intact survival space even at high impact speeds. Ultra high-strength steels and panels of increased thickness play an important part in this, as does the inclusion of additional structural members.

The main floor structure consists of three steel sheets which are laser-welded together and subsequently brought into the right form. The thick centre sheet forms the tunnel, the actual backbone of the passenger cell. Other new features which are very important for occupant protection and the rigidity of the bodyshell include the continuous floor side members, the insides of which are additionally reinforced with steel sections. These are connected to the front ends of the side members, thereby lengthening the load-bearing paths to which forces can be distributed during an impact. At the rear the floor side members extend to the cross-member beneath the rear seat unit to stabilise the entire floor structure, resulting in a considerable improvement in the vibration characteristics of the bodyshell.

Mercedes engineers have also incorporated robust aluminium cross-members – so-called tunnel struts – into the floor assembly. One of these is located beneath the transmission, and is designed to direct forces to the unaffected side of the vehicle during a side impact. The second tunnel strut creates a connection between the two side members. This likewise rigidifies the floor assembly and is able to direct impact forces into the floor structure at an early stage during a side impact. Diagonal struts between the side skirts and the side members also improve rigidity and improve the vehicle’s cornering characteristics.

Side wall: reinforced B-pillars with three layers of steel

The outer side walls of the new C-Class are of one-piece construction. Individually welded inner panels ensure exemplary strength in the area of the roof pillars. The B-pillars, which are required to absorb large forces and transfer them to the bodyshell structure during a side impact, consists of three formed steel layers plus a large, reinforced area extending to the

upper edge of the belt deflector point. One of the sections and the reinforcement are made from hot-formed, ultra high-strength steel.

When designing the doors, Mercedes engineers also devoted particular attention to the door hinges, for which they developed special, high-strength mounting plates. This creates a robust, integrated structure which is able to provide effective protection to the occupants in the event of a collision. The inner door panels are high-strength steel plates reinforced by sections in the area of the frame, waistline and at bumper level.
Additional members located in the lower area between the outer and inner door panels supplement the side impact protection measures. Each of the rear doors has two of these steel sections.

Rear end: cross-member of flexibly rolled high-tech steel

The major components of the rear-end structure are multi-piece side members of high-strength steel and a robust, flexible cross-member. The rear side members are continuous, closed box sections with defined, graduated material thicknesses. These are able to absorb large forces, and make a major contribution to occupant safety during a rear impact. The bolt-on flexible cross-member is produced by an innovative, flexible rolling process which likewise allows the material thickness to be varied as required. Flexible means that the ultra high-strength steel can be processed in such a way that areas with different steel thicknesses can be produced within a single component. Accordingly the thickness on the outside of the cross-member – where impact loads are highest – is greater than on the inside.

The new C-Class also meets the world’s most stringent crash regulations where rear impact protection is concerned, for example the 80 mph test in the USA.

To ensure that the optionally folding rear seat backrests are securely anchored, Mercedes engineers developed a supporting structure for the rear

bulkhead of the passenger cell which is welded to the side walls, floor panel and parcel shelf. This not only provides a solid anchorage for the backrest hinges and catches, but also contributes to the high torsional rigidity of the bodyshell.

Long-term protection: fully galvanised bodyshell with scratch-resistant paintwork

Long-term anti-corrosion protection for the bodyshell is based on fully galvanised body panels, some of which have an additional organic coating on both sides depending on their location, e.g. on the doors or on the front, side and rear longitudinal members. This coating also contains rust-inhibiting zinc pigments. Mercedes-Benz also protects the most vulnerable structural areas of the bodywork with a cavity-fill preserving agent, for example on the front side members, the upper side member plane, the door sills and the rear wheel arches.

Fully weather-sealing the welding seams also prevents the onset of corrosion. This seam sealing benefits not only the bonnet, doors, boot lid and rear wheel arches, but also a large proportion of the welded joints in the floor structure of the new C-Class. Using laminated plastic for a large area of the underbody panelling has allowed Mercedes engineers to dispense with conventional PVC underseal. This underbody panelling protects the body from stone chippings, water and soiling. Axle components subject to severe stone impacts are also protected by a plastic lining.

Mercedes-Benz also makes a major contribution to exemplary long-term quality and value retention with a scratch-resistant clearcoat based on nano-technology. This innovative paint system, which celebrated its world debut at Mercedes-Benz at the end of 2003, is a standard feature of the new C-Class and is used for both metallic and non-metallic finishes.

Thanks to remarkable advances in the field of nano-technology, it was possible to integrate the tiny ceramic particles measuring less than one millionth of a millimetre into the molecular structure of the paint binder. These particles effect a three-fold improvement in the scratch-resistance of the paint finish and ensure a visibly brighter, long-lasting sheen.

Exterior mirrors: significantly larger glass surface

The exterior mirrors of the new C-Class make an important contribution to perceptive safety: the glass surfaces have been significantly enlarged, and thereby already meet future legislation. With the new exterior mirrors, the driver is even able to recognise smaller objects lying on the ground around four metres behind the vehicle.

To ensure that the mirrors always provide the clearest possible view to the rear, they are electrically heated as standard. The heating system is switched on automatically, depending on the outside temperature and humidity. Both exterior mirrors are electrically adjustable, and fold inwards at the touch of a button. Various mirror settings can be stored if the memory package (optional) is specified. This package also includes a useful parking aid: as soon as the driver engages reverse gear, the lens of the exterior mirror on the front passenger side pivots downwards. This gives the driver a view of the kerb and assists reversing manoeuvres into parking spaces.

Sliding roofs: large area of glass from front to rear

In addition to the glass tilting/sliding roof, Mercedes-Benz offers an extra for the new C-Class which guarantees very special open-air enjoyment, namely a panoramic sliding roof.

The description can be taken literally, as the glass surface of this new development is almost twice the size of the tilting/sliding roof, extending from the windscreen right back to the rear window. At the touch of a button, the front section of the glass roof is raised and slides to the rear over the

fixed section, while an air deflector mesh pops up at the front. As with the tilting/sliding roof, the front section of the panoramic sliding roof can also be put in the tilted position. Remote control using the electronic ignition key is also possible with this roof. As the C-Class is equipped with PRE-SAFE® as standard equipment across the entire C-Class range, the tilting/sliding roof and the panoramic sliding roof are integrated into the preventive occupant protection system and close automatically before an impending accident. If linked to the rain sensor, the panoramic sliding roof also closes automatically when it rains.

Extruded aluminium sections form the robust structure of the newly developed panoramic sliding roof, which is bonded to the roof frame as a completely prefabricated module. Along both sides, black-painted aluminium mouldings cover the gap between the body and the glass panels. Sun protection is provided by tinted glass and electric roller blinds on the inside of both glass surfaces.

Aerodynamics: best Cd value of any notchback saloon in this class

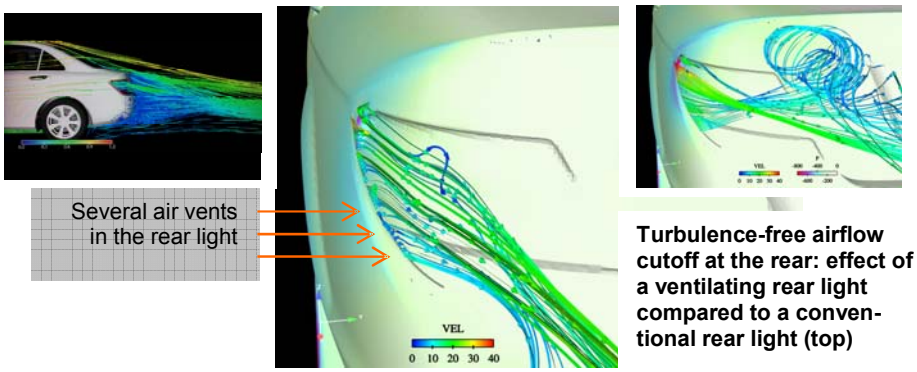
On the basis of their enormous know-how, and with the help of the latest development methods, Mercedes engineers have also achieved another triumph where the aerodynamics are concerned. Despite a less tapered rear end, larger rear radii, larger exterior mirrors and smaller front overhangs, the new C-Class achieves a Cd value of 0.27 – the best in the market segment for notchback saloons. Rear axle lift, an important factor in handling and braking stability, has also been improved compared to the preceding model -- from 0.09 to 0.07. Key aerodynamic figures at a glance:

	New C-Class
Coefficient of drag Cd	0.27
Frontal area (A)	2.17 sq. m.
Air resistance (Cd x A)	0.59 sq. m.
Front axle lift (C_{AV})	0.12
Rear axle lift (C_{AH})	0.07

These figures are the result of painstaking development work by computer and in the wind tunnel that already began during the early conceptual phase. Based on the key exterior dimensions and the fundamental stylistic concept, 1 : 4-scale models of the new C-Class were initially produced and subjected to numerous wind tunnel tests to create the conditions for good aerodynamics. This experimental work was supplemented with flow simulations in the form of a cutting-edge process known as computational fluid dynamics, or CFD for short, which investigates airflow characteristics. The latest CFD software enabled the Mercedes engineers to calculate and optimise the aerodynamic conditions beneath the bonnet, in the underbody area or around individual body components, as well identifying the potential for further improvements at an early stage.

Ventilating rear lights: patented system replacing a spoiler

With the help of digital aerodynamic prototypes and tests in the wind tunnel, specialists in Sindelfingen came up with individual, intelligent solutions which measurably reduce the air resistance of the vehicle body. These include innovative "ventilating rear lights" – a system patented by Mercedes-Benz which replaces conventional spoiler lips and therefore does not compromise the attractive lines of the Saloon. The system works as follows: both rear lights of the new C-Class feature several small air vents. Air is sucked in from the underbody and flows behind the rear lights, which are sealed against the body, in the area between the rear cross-member and the rear bumper. The air is conducted to the air vents in the lights, where it flows out and influences the airstream along the side walls.



Turbulence-free airflow cutoff at the rear: effect of a ventilating rear light compared to a conventional rear light (top)

As a result the airstream along the sides is abruptly redirected at the rear lights, eliminating turbulences which would otherwise negatively influence the air resistance, rear axle lift and yaw characteristics of the Saloon.

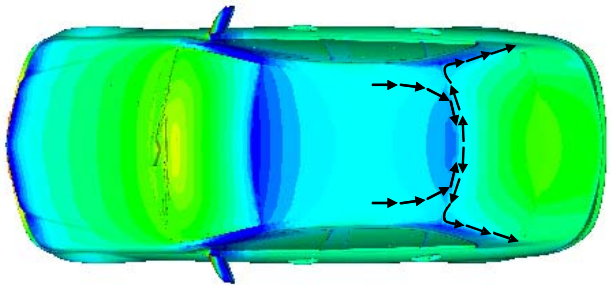
Anti-soiling: a clear view all-round

Keeping the exterior mirrors, side windows and rear window clean in poor weather conditions is very important for driving safety. Accordingly Mercedes-Benz has always given this topic a great deal of attention, and has achieved further progress in the case of the new C-Class:

- The **A-pillars** feature special twin drainage channels in which rainwater striking the windscreen is collected, then conducted to the rear along the roof with the help of the slipstream. This keeps the side windows substantially free of soiling.

- The housings of the **exterior mirrors** are designed in such a way that rainwater flows to the outside along an unobtrusive, continuous channel and drains away. A small spoiler assists this defined drainage process, which keeps the side windows, mirror lenses and door handles clean.

- To keep the **rear window** clean, Mercedes engineers developed an innovative, two-piece rubber lip as a transition between the roof and the rear window. This features an open channel and a partly enclosed channel. Owing to the pressure conditions at the rear edge of the vehicle roof, rainwater first runs towards the middle in the open channel, where suction drives it outwards. Via the enclosed channel in the rubber lip it then flows away downwards along the window edging, keeping the window clean even at



Pressure distribution and water flow at the rear window

Aero-acoustics: detailed adjustments for audible comfort

Wind noises caused by slipstream around the body and its mounted parts, or by vibrations induced in the steel surfaces, can soon take the pleasure out of a journey. The progress made in this area is very audible on board the new C-Class: the more rigid bodyshell with its continuous floor side members, the reinforced outer skin and newly designed doors all help to ensure that vibrations remain at a very low level.

A new gap-sealing concept is also employed: the doors of the

C-Class feature a continuous double seal - and in some areas even a triple seal. For the new panoramic sliding roof, Mercedes specialists have developed an air-deflecting mesh which is erected automatically. This ensures that the annoying flutter that occurs when the roof is open is effectively suppressed.

Headlamps

The **cornering light function** integrated into the main headlamps improves safety when entering junctions, openings and tight bends. It is automatically activated if the driver operates the indicators or turns the steering wheel at a speed below 40 km/h. The headlamps then illuminate the side area ahead of the vehicle to a range of around 30 metres at an angle of up to 65 degrees.

A headlamp cleaning system supplements the technology of the active bi-xenon light system. This is linked to the windscreen washer system, and is activated every tenth time this is operated. This has the advantage that the headlamp cleaning system no longer needs to be operated manually.

In standard trim, the new C-Class leaves the production line equipped with newly developed projector-beam headlamps. Two parking lights are incorporated in the upper, flat area of the headlamp units where they meet the bonnet, and additional reflector-type high-beam headlamps are located below these, on the inside. The standard foglamps are integrated into the bumper lining, and are therefore in a favourable, low position for their purpose.

Powerful bi-xenon systems with around 50 percent more lighting power are optionally available as an alternative to the halogen main headlamps. In addition to the headlamp cleaning system, rear lights with yellow indicators in LED technology are included if Mercedes customers opt for the bi-xenon headlamps.

Whether halogen or bi-xenon is chosen -- in both cases the standard headlamp assist function ensures that the vehicle lights come on automatically when darkness falls or the vehicle enters a tunnel. It is activated by the light switch in the dashboard ("Auto" position).

Electronic databus networking makes a number of further lighting functions and settings possible:

- **Emergency lighting:** Should a data channel or electronic control unit develop a defect, a pre-programmed setting prevents failure of the entire lighting system.

- **Failsafe light function:** In the event of a bulb failure which might compromise vehicle safety, the electronics switch on other bulbs as a temporary replacement.

- **Daytime driving lights:** Using the luxury multifunction steering wheel and the central display in the instrument cluster, the driver is able to programme the lighting system so that the low-beam headlamps, parking lights, rear lights and licence plate lamp always come on automatically when the engine is started.

- **Orientation lights:** If this function is activated using the luxury multifunction steering wheel, the foglamps remain switched on when the occupants have left the vehicle to aid orientation in the dark. The duration for this lighting function can be set from 1 to 60 seconds.

Where experience counts

- **Practical: Mercedes safety concept for every accident phase**
- **Exemplary: PRE-SAFE® now standard for the C-Class**
- **Larger: front-end impact zones on four levels**
- **Standard: eight airbags and NECK-PRO front head restraints**

Nothing beats experience – except even more experience. With every new model, Mercedes-Benz increases its more than 60 years of expertise in the field of passenger car safety, translates the latest accident research findings into specific protective measures and develops pioneering, new driver support systems to make driving even safer.

Mercedes-Benz has also brought the C-Class -- and therefore automobile engineering as a whole in this market segment – a considerable step further where safety is concerned. Once again the specialists in Sindelfingen have learned more from their own accident research, once more their thorough testing has helped to improve occupant protection further with intelligent details, and once again they have ensured that even more drivers benefit from the cutting-edge technology of the luxury class.

The Mercedes philosophy PRO-SAFE™ is the driving force and ideal for this commitment. It defines safety as a comprehensive undertaking that goes well beyond compliance with standardised crash test regulations. It concerns itself with all aspects of driving – everything that is important for the safety of the vehicle occupants and other road users. The Mercedes safety concept divides these aspects into four phases:

1. Safe driving: Avoiding danger, warning and assisting in good time

2. When danger threatens: Acting preventively with PRE-SAFE®

3. During an accident:

4. After an accident:

The new C-Class is in line with this reality-based concept, and thereby clearly distinguishes itself from all other automobiles in this market segment.

Safe driving: accident prevention with intelligent support systems

Accident prevention is the foremost principle of the Mercedes concept. With systems such as ESP®, Brake Assist and ADAPTIVE BRAKE as standard, the C-Class is ideally equipped for safe driving. These systems assist the driver in critical moments and help him to confidently cope with dangerous situations. Accident statistics show that the number of serious rear-end collisions and accidents caused by skidding is greatly reduced by these Mercedes technologies.

When danger threatens: debut of PRE-SAFE® in this vehicle class

One of the major aims of this commitment by Mercedes is to achieve a synergy between active and passive safety, i.e. to link accident prevention with occupant protection systems. The generic term used for this new era in vehicle safety is PRE-SAFE®. It describes an innovative protection concept based on the principle of prevention, which first entered series production in the Mercedes-Benz S-Class in 2002 and is now standard equipment for the new C-Class as well. This makes the new Mercedes saloon the only automobile in its class worldwide to feature this future-oriented safety technology.

PRE-SAFE® is linked to modern driving safety systems such as ESP® and Brake Assist, and is able to detect critical driving manoeuvres at an early stage with the help of its sensors. If the C-Class is in danger of crashing as a result of heavy under or oversteering, or if the driver needs to brake very heavily in a dangerous situation, PRE-SAFE® activates certain systems as a precaution to prepare the vehicle and its occupants for an impending accident. If a collision is avoided at the last moment, the C-Class is immediately able to continue its journey: all the PRE-SAFE® features are

reversible and can be reset to their original positions, and the system is ready for use again.

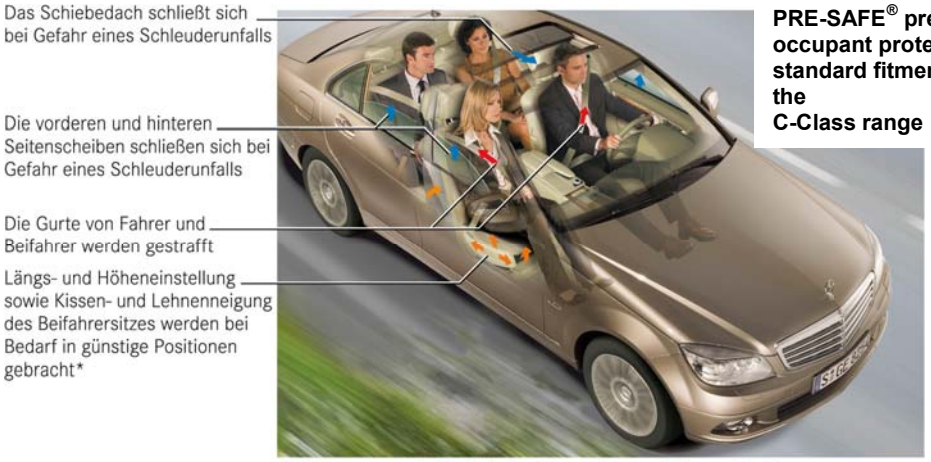
This means that the passive safety phase does not only begin when the impact occurs, but before an impending collision. This Mercedes invention uses the time between the detection of a potential accident situation and a possible crash to initiate occupant protection measures.

When developing this preventive safety system, Mercedes engineers drew a distinction between critical driving manoeuvres involving large lateral and linear forces. Accordingly, precisely defined preventive measures are activated depending on the situation – and always with the aim of ensuring that well-proven safety systems such as seat belts and airbags can provide the best possible protection during an impact:

- During **emergency or panic braking** with Brake Assist, PRE-SAFE® tensions the seat belts as a precaution to fix the driver and front passenger in their seats, increase the distance to the dashboard and reduce the forward movement of the front seat occupants during a crash. For this important PRE-SAFE® function, the front inertia reels in the C-Class are equipped with powerful electric motors which respond within milliseconds and take up any belt slack. During emergency or panic braking, PRE-SAFE® also brings an unfavourably adjusted front passenger seat into a better position – provided the car is equipped with the electrically adjustable front passenger seat with memory function. The system corrects both the backrest and seat cushion angles, as well as the height and fore-and-aft adjustment of the seat, as required, bringing the front passenger into a position which is more advantageous for the effectiveness of the airbag and allows a good restraining effect by the shoulder belt. This also lowers the risk of sliding beneath the seat belt and sustaining injuries during an accident.

- If there is a **danger of skidding owing to heavy under or oversteering**, PRE-SAFE® activates a further protective function: in

these situations the side windows and sliding roof begin to close as a precaution. Closed side windows are better able to support the windowbags as they deploy during a side impact or rollover. This preventive measure also lessens the risk of the occupants being thrown from the vehicle or objects penetrating into the interior during a crash. The sliding roof is linked to PRE-SAFE® because accident researchers analysing rollover accidents found that car occupants are frequently thrown out through the open roof. Closing the sliding roof as a precaution also lessens the risk of objects penetrating into the interior.



PRE-SAFE® preventive occupant protection now standard fitment to all models in the C-Class range

Measurements taken by Mercedes engineers during crash tests show how effective preventive occupant protection can be in an accident. Take the belt tensioners, for example: because the driver and front passenger are optimally held in their seats and do not move as far forward during an impact, the loads acting on the head and neck areas are reduced. Tests showed that the head was subjected to around 30 percent lower loads, while the reduction for the neck area was around 40 percent.

During an accident: occupant protection on four levels

During the course of its development, the new C-Class successfully passed more than 100 crash tests, including not just the over 2 dozen different crash tests for the saloon to meet worldwide requirements, but also 9 particularly demanding, in-house impact tests of which some go well beyond the legal requirements. Passing these is a precondition for the highest accolade in automobile safety: the Mercedes star.

And finally the C-Class has absolved around 5500 computer-based crash tests – realistic simulations which provided the engineers with particularly valuable information during the early project phase.

Following this time-consuming and painstaking development work, the new C-Class is outstandingly well prepared for the accident situations that actually occur on our roads:

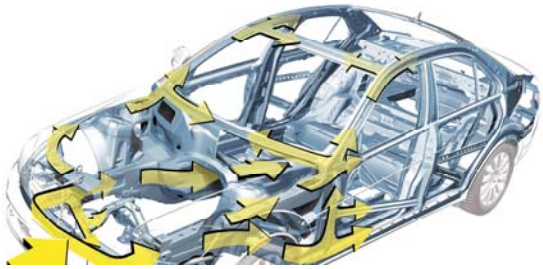
Frontal impact:
Compared to the previous series, Mercedes-Benz has enlarged the deformation zones even further and improved energy flows. The front-end structure of the new C-Class has **four** independently acting **impact levels**, which enable forces to be distributed over a wide area while bypassing the passenger cell. In addition to the robust **aluminium cross-member** in the front end, and **side members** which extend well forward to direct impact forces into the side structure, firewall and transmission tunnel, the **integral support** of high-strength steel now also absorbs these forces. For this purpose it has been extended forward and connected to the newly developed **floor side members** via special tubular members. During a crash this enables the integral support to deform and absorb energy, while also transferring large impact forces directly into the vehicle floor. Robust **profiled steel panels above the wheel arches** form the second side member level. These panels are connected to the A-pillars.

1. Upper side member level

2. Cross-member and side members as the middle impact level

3Integral support

4. Front wheels and impact-absorbing elements in front of the side skirts



Energy flow on four levels during a frontal impact

During an offset frontal crash, the extended **side skirts** support the wheel and prevent it from intruding into the footwell. This also allows additional energy absorption via the wheels.

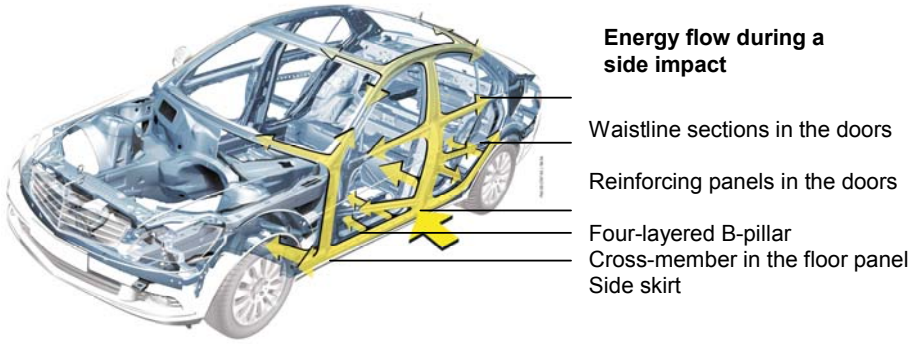
To provide specific support and guidance to the front wheels, Mercedes-Benz has also developed special **struts** and additional **impact-absorbing element in the wheel arches**. These struts are arranged diagonally and prevent the passenger cell from dropping during a collision, enabling the C-Class to absorb the impact energy and protect its occupants even more effectively. As another new feature on the driver's side, an **X-strut** connects the shock absorber tower with the strong cross-member beneath the windscreen and supports it. During an impact, this strut prevents the shock absorber tower and the main brake cylinder behind it, to which the pedals are in turn linked, from moving to the rear. This strut made from ultra high-strength steel therefore has a dual function: it reduces the loads acting on the firewall and prevents the pedal cluster from being pushed into the interior.

Mercedes-Benz has also developed the steering further. This is equipped with an energy-absorbing element which allows the steering column to collapse telescopically by up to 100 millimetres during a frontal collision, enabling the driver to benefit from a longer deceleration path.

Side impact:

As only a very small crumple zone is available during a side collision, Mercedes engineers were careful to ensure that the impact forces are widely distributed. The four-layered **B-pillars** and the **side members** (sills) play the main part in this. Both components are partly made from ultra high-strength, hot-formed high-tech steel. The impact forces are substantially transferred from the B-pillar to the unaffected side of the vehicle via the transversely rigid **seat** and the **centre console**. Accordingly the seats of the C-Class are equipped with **tubular sections** and **impact-absorbing elements** in the side mouldings.

Another load dissipation path runs from the base of the B-pillars to the **cross-member** under the seats and the **tunnel struts**. The B-pillars are also able to transmit forces to the **roof frame**. At medium height, the **doors** with their rigid waistline sections and bonded-in reinforcing panels form a strong integrated structure.



Rear impact:

An effective deformation zone is also available at the rear end of the new C-Class. This mainly consists of **multi-piece side members** and a bolted-in **cross-member**, which is able to absorb large forces and distribute them into the body structure. The **fuel tank** is located in a protected position beneath the rear seat unit.

Passenger cell:
While the different load-bearing structures at the front, sides and rear end of the Saloon are designed to deform and absorb energy during an impact, the passenger cell acts as the **"hard core"** of the safety concept in the C-Class. Even in a serious accident it only deforms very slightly, maintaining the survival space of the occupants. Mercedes engineers have achieved this by the use of high-strength and ultra high-strength steel alloys with graduated wall thicknesses, as well as by developing an extremely strong floor structure. This comprises two continuous side members, several cross-members and two tunnel struts which are able to transfer side impact forces to the unaffected side of the vehicle.

Protective systems: eight airbags as standard

In the interior, the exemplary safety technology of the new C-Class is complemented with the very latest protective systems. Three-point inertia-reel seat belts with belt tensioners and belt force limiters are fitted as standard for the driver, front passenger and occupants of the outer rear seats. Forces are dissipated on an adaptive basis in the front: after reaching a certain maximum retention, the belt forces are reduced to a low level – the belts are allowed to slacken so that the occupants are more deeply immersed in the deploying airbags, reducing the loads acting on the torso.

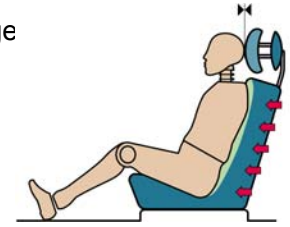
In addition the new C-Class is equipped with eight airbags as standard: two adaptive airbags for the driver and front passenger, two front and two rear **sidebags** in the front seat backrests and two large **windowbags** which extend from the A to the C-pillar during a side impact.

The front airbags are activated in two stages, depending on the severity of the impact. The front end of the new C-Class is equipped with two up-front sensors. By virtue of their exposed position on the front-end module, these are able to detect the severity of a collision at an early stage. This information enables the time between the crash and activation of the airbags

and belt tensioners to be reduced even further. The belts can therefore be tensioned at a very early stage, so that the occupants are connected to the passenger cell during an impact and can take part in the deceleration of the body structure. During a less serious accident only the first stage of the airbag generators is triggered, and the airbags are only partially inflated for a "soft landing". If the impact is more severe, the second stage of the airbag generator is also activated and fully inflates the airbags.

The sensor system for side impacts is also more sophisticated than in the preceding model. Innovative pressure sensors rapidly and precisely inform the control unit about a side collision in the area of the doors. These sensors react when the air between the outer and inner skins of the doors is compressed during a crash. Additional side sensors are installed in the B-pillars.

NECK-PRO is another special safety feature in the new C-Class. This is the name Mercedes-Benz has given to a crash-responsive head restraint whose development, like that of PRE-SAFE® and other Mercedes innovations, is based on analyses of real accidents. NECK-PRO is an effective means of reducing the risk of whiplash injuries during a rear-end collision. If the sensor system detects a rear-end collision with a defined impact severity, it releases pre-tensioned springs inside the head restraints which immediately cause these to move forward within milliseconds by about 40 millimetres and upwards by 30 millimetres. This means that the heads of the front occupants are supported at an early stage



The NECK-PRO principle of the crash-responsive head restraint

After NECK-PRO activation the head restraints can be unlocked and returned to their original position using a tool supplied with the car, and are

then immediately ready for use again. NECK-PRO head restraints for the driver and front passenger are standard equipment in the new C-Class.

The standard occupant restraint system at a glance:

	Front seats	**Rear seats**
Inertia-reel seat belts with height adjustment	•	• height adjustment for the outer seats
Belt tensioners	•	• for the outer seats
Belt force limiters	• with adaptive control	• for the outer seats
Head restraints	• with NECK-PRO function	•
Front airbags, two-stage	•	
Sidebags	•	•
Windowbags	•	•
Kneebag	•	

• = standard

After an accident: innovative safety fuses as a fire precaution

The aim during this safety phase is to avoid even more serious consequences and recover accident victims as quickly as possible. In order to prevent consequential damage, the fuel supply to the engine is automatically interrupted if the new C-Class is involved in an accident of sufficient severity. The hazard warning system is also switched on to warn following traffic and prevent further accidents. After an accident with airbag activation, all the side windows are opened very slightly to ventilate the interior. The doors are also automatically unlocked so that helpers are able to recover injured passengers more rapidly.

Specially designed crash joints prevent the doors from being jammed shut by the wings. The occupants are also able to open the doors after an accident, as Mercedes-Benz uses Bowden cables, which usually remain intact after deformation, to operate the door catches from the inside.

To prevent electrical short-circuits and therefore a possible fire, the C-Class is equipped with a special safety fuse in the cable connection between the battery and the starter generator. After a serious accident this interrupts the power supply by pyrotechnical action, though the remaining onboard network remains intact.

Pedestrian protection: deformation zones under the bonnet

Pedestrian protection was another major topic in the safety development activities for the new C-Class. This is not a new area for Mercedes-Benz, as the company has long concerned itself with reducing the risk of injury to the most vulnerable of all road users – pedestrians and (motor) cyclists. Smooth body surfaces, energy-absorbing bumpers, laminated glass windscreens, folding exterior mirrors, rounded door handles and recessed windscreen wipers are just some of the details that serve this purpose. Mercedes innovations in the active safety field such as Brake Assist also make a major contribution to pedestrian protection, as they help to prevent accidents with

pedestrians from occurring in the first place, or significantly reduce the impact speed. This has been confirmed by the latest accident research findings.

To reduce the risk of injury to pedestrians, the bonnet of the new C-Class is designed to deform under a head impact. The deformation space between the bonnet and the components beneath it has been enlarged in two ways: firstly by the higher external contours of the Saloon, and secondly by the lower location of the engine, shock absorber towers, containers and control units.

The front bumper features a flush, foam-filled spoiler lip which provides a pedestrian with consistent support at an early stage during a collision.

Repair concept: lower costs by virtue of intelligent body engineering

Energy-absorbing plastic bumpers, bolted connections for the front and rear-end modules and crash boxes are the major components of a sophisticated concept which helps to reduce the cost of accident repairs. The components are specifically designed to absorb energy during a low-speed crash so that the body structure itself is protected against damage. Further examples of the repair-friendly bodyshell concept:

- The **plastic front bumper** with integral foam elements absorbs impact energy at speeds up to approx. four km/h. The absorbent material automatically returns to its former shape after the crash.

- Bolted to the bodyshell, the **front end** mainly consists of an extruded aluminium cross-member with two aluminium **crash boxes.** Their strength and energy absorption are precisely calculated to ensure that at an impact speed of up to 15 km/h against a rigid barrier, any deformation is limited to bolt-on front-end components. All the components of this module are bolted together, and can therefore be replaced without troublesome welding work (see page 33).

- The **rear bumper** has the same elastic deformation characteristics as its opposite number in the front, and remains undamaged after impacts at speeds up to four km/h.

- The **rear-end module** of the new C-Class consists of a solid, flexible cross-member and a steel crash box, both of them bolted to the body structure. This module almost completely absorbs crash energy at collision speeds up to approx. 15 km/h.

More space – more comfort

- **Larger: more freedom of movement for every occupant**
- **Better: newly developed seats with two-zone comfort**
- **Tidier: more functions – fewer switches**
- **Up-to-date: top-class technology for navigation and audio**
- **Improved: automatic climate control up to 15 percent more efficient**

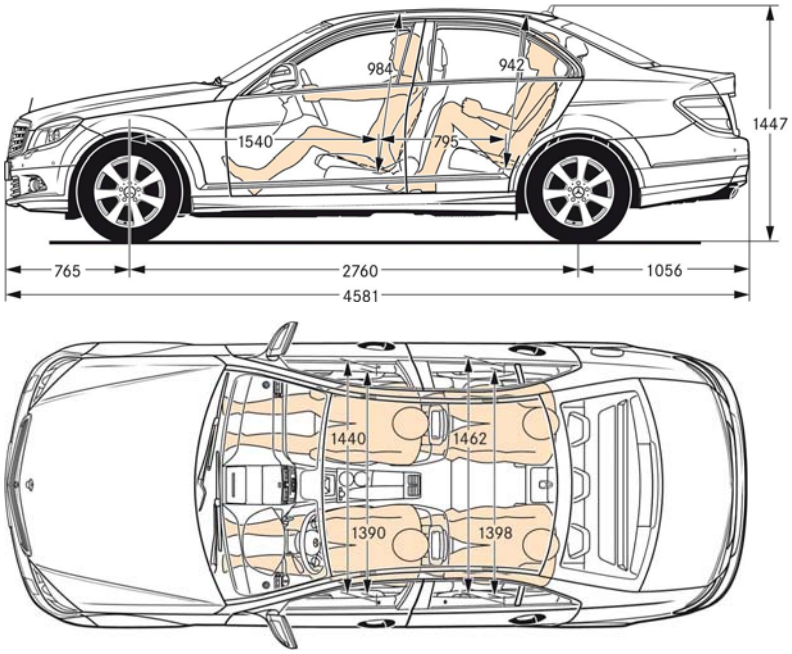
More space – more comfort. This is the simple but effective formula on which the advances from which the occupants of the new C-Class benefit are based. The 55-millimetre longer and 42-millimetre wider body compared to the preceding model, as well as a 45-millimetre longer wheelbase, create the conditions for an even more generously sized interior in the Saloon. This is noticeable by the larger distance between the front and rear seat hip reference points, which is now 795 millimetres and therefore exceeds that of the previous C-Class by ten millimetres. Passengers in the rear benefit from eleven millimetres more legroom, while knee-room has improved by nine millimetres.

The occupants also enjoy more space and comfort thanks to the new interior widths, with both front shoulder-room and elbow-room increased by 40 mm to 1390 and 1440 millimetres respectively. In the rear the Saloon offers a shoulder-room of 1398 millimetres and an elbow-room of 1462 millimetres -- 20 resp. 40 millimetres more than the preceding model. The new interior dimensions also benefit the space available in the footwells and for seat adjustment: the footrest in the driver’s footwell is now significantly larger, and seat adjustment has been noticeably improved.

Mercedes engineers also attached great importance to comfort when entering and leaving the vehicle. Passengers in the new C-Class have an up to seven-millimetre higher seating position, which makes getting in easier.

This is also helped by the straight front edges of the B-pillars, the larger front door aperture and the new shape of the seat cushions in the rear.

Moreover, the new C-Class also has more room for luggage. The boot capacity has increased by 20 litres to 475 litres (acc. to VDA measuring method). The boot aperture now measures 490 millimetres, exceeding that of the previous model by 43 millimetres. The new dimensions of the C-Class at a glance:



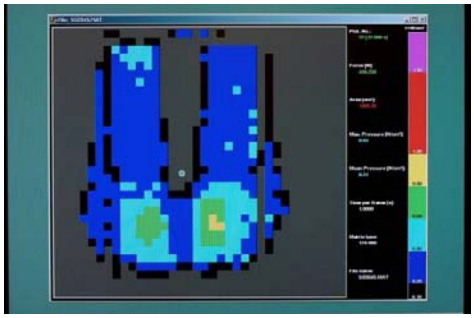
Key dimensions of the new C-Class: more comfort by virtue of increased shoulder-room and elbow-room

Seats: long-distance comfort as standard

Because the seats can make a very major contribution to long-distance comfort, the designers gave particularly close care and attention to this aspect. The result is newly developed front seats which offer further benefits in terms of pressure distribution and lateral support. This was made possible by developing a seat contour with more prominent side seat bolsters and the use of two-zone seat padding: in the outer areas – and especially in the enthusiast seat wings – the foam padding is rather firmer in the interests of good lateral support, while the inner area of the seat surface is softer.

In addition, the foam padding on the seat surface is around five percent thicker than in the preceding model.

In this way the Mercedes specialists have achieved a uniform pressure distribution and avoided pressure peaks – especially at the Tuber ischiadicum i.e. the area to the side of the pubic bone – which can be uncomfortable during a long journey.



Seat pressure distribution: newly developed seat upholstery prevents uncomfortable peaks

The seat padding is supported by a seat base with integral springs. A frame partly of high-strength steel provides a stable base for the front seats. Special tubular sections and impact-absorbing elements in the seat mouldings ensure that the seats are able to absorb large forces during a side impact and transfer these to the unaffected side of the vehicle.

The backrests of the front seats consist of a steel frame and foam padding whose contours have likewise been designed to give better lateral support. The volume of the foam backrest has been increased by around five percent compared to the previous C-Class. With the help of a lumbar support included as standard, the driver is able to adjust the backrest contour to his spinal anatomy and relieve strain on the back muscles – a further contribution to long-distance comfort.

As before, the height and backrest angle of the front seats are electrically adjustable, while the fore-and-aft position and seat cushion angle are adjusted manually. At 290 millimetres, the new C-Class has the longest seat

adjustment travel in this market segment. The individual seat position can be adjusted in very small increments of 4.5 millimetres, and is therefore finely variable. The backrest angle is also continuously variable. This means that both very tall and very short drivers are able to adjust the seats for best possible access to all the vehicle controls. The adjustment ranges of the front seats are as follows:

- Fore-and-aft 290 millimetres
- Seat height 54 millimetres
- Cushion angle 4.8 degrees
- Head restraint height 85 millimetres

Even more operating convenience is provided by the fully electrically adjustable front seats available as an optional extra. In this case not only the cushion height and backrest angle, but also the fore-and-aft position, cushion angle, head restraint, steering column and exterior mirrors can be adjusted by electric motors. If the memory package is specified, three individual settings can be stored. Pressing a button on the inner door panel causes the seats, steering wheel and exterior mirrors to move to the pre-programmed position automatically. When the driver removes the electronic ignition key of the new C-Class, the steering wheel can be pivoted upwards and the driver's seat slid to the rear by 60 millimetres to allow even more comfortable egress. The steering wheel remains in this position until the ignition key is reinserted, allowing the driver more legroom when getting in.

Multicontour seat: air chambers for adaptability

The multicontour seat is a well-proven Mercedes invention that greatly contributes to the long-distance comfort of passenger cars bearing the star. Multicontour means that the occupants are able to adapt the contours of the seat to suit their anatomy or personal preferences. This is made possible by separately controllable air chambers beneath the seat padding.

From the fourth quarter of 2007 Mercedes-Benz is offering a further development of the multicontour seat as an optional extra for the C-Class. This new technology monitors the selected contour adjustments and ensures that the air chambers are appropriately inflated at all times. Two of these chambers are in the backrest, where they act as a continuously variable lumbar support, while the side bolsters have one chamber each and another inflatable chamber adjusts the seat cushion length.

In conjunction with the AMG sports package, sports seats with more pronounced cushion and backrest bolsters for more sporty lateral support are available for the driver and front passenger.

Rear seats: comfortable and versatile

The rear seat unit with its further improved upholstery is of one-piece construction as standard. Three head restraints and three inertia-reel seat belts ensure the safety of the occupants. The outer rear seats are also equipped with belt tensioners and belt force limiters, as well as head restraints adjustable for height and angle. A top tether attachment for child seats is also included in the rear.

For drivers who wish to put the boot of the Saloon to variable use, Mercedes-Benz has developed an optional divided backrest which can be quickly and easily folded forward on a 1 : 2 ratio. The head restraints move forward together with the backrests and do not need to be removed first.

In all models the rear seat unit features a centre armrest with an integral cupholder for two drinks as standard equipment. On request Mercedes-Benz is able to equip the rear seat unit of the C-Class with integral child booster seats which fold out of the seat cushion (availability date to be confirmed at time of model release).

Dashboard: harmony of form and function

"What looks good must also feel good" – this is the Mercedes principle followed by the dashboard, centre console and the transmission tunnel and door linings of the new C-Class. This is because Mercedes specialists regard the tactile qualities of materials as a major contribution to comfort and wellbeing.

The dashboard may be ordered with a two-tone colour scheme, in which case the upper section and centre console are in a darker colour while the knee protection, glove compartment lid and tunnel lining are visually defined by a lighter, contrasting colour. The instrument cluster, controls and air vents are harmoniously and integrated into the interior design contours. The precise edges and small radii that characterise the high-quality appearance of the interior are the result of an ultra-modern production process: the foamed surface skin is sprayed into half shells mounted on a plastic supporting structure using robots. This surface skin consists of soft polyurethane plastic which is pleasant to the touch and can be varied in thickness as required. Moreover, this process creates a homogeneous surface with no disruptive joins or seams.

The pivoting cover of the display compartment and the glove compartment lid are also finished using this process, giving the dashboard a uniform, high-quality appearance. The illuminated glove compartment has a capacity of 6.4 litres and can be air conditioned. It also accommodates a twelve-volt socket and a connection for an external audio unit.

An aluminium cross-member acts as a robust support for the dashboard and its components. The glove compartment, airbag, centre console and jacket tube are attached to this solid section, which is around 1.8 kilograms lighter than a comparable welded steel construction. The cross-member reduces resonances and vibrations, and helps to give lateral stability to the A-pillars to which it is bolted at both ends.

The centre console is harmoniously integrated into the form and colour concept of the dashboard. The controls for the audio system and telephone (optional) are positioned below the air vents. This area is delineated from the lower centre of the Dashboard featuring the controls for the standard air conditioning system by a defined edge. This is followed by an almost right-angled transition to the tunnel console, in which the shift lever, the controller and an asymmetrically divided armrest are to be found. On the driver's side this armrest extends well forward, serving as a practical handrest for operation of the controller. Beneath it is a spacious stowage compartment. If the new C-Class is equipped with THERMOTRONIC three-zone luxury automatic climate control, the tunnel console also features an operating unit for adjustment of the blower and air conditioning by passengers in the rear.

The switches, keys and controls are laid out in line with the latest ergonomic findings, and positioned according to the importance of their functions, frequency of use or visual aspects. This means that the uppermost position in the centre console is occupied by the prominent red key for the hazard warning system, where it is equally well accessible to both the driver and front passenger. This is followed by an array of switches for optional equipment such as heated seats or the interior monitoring/tow-away protection system; at the lower end the centre console features the operating unit for the automatic climate control.

Switches: a tactile experience

The visible surfaces of the switches and controls are coated with a special lacquer which provides a silky sheen and a surface which is soft to the touch. In conjunction with the modern push-push buttons, which require an operating pressure of just four newtons and have a travel of only 0.8 millimetres, this lacquer finish makes the selection of vehicle functions both precise and pleasant to the touch. Pressing once is enough to activate or deactivate the function concerned. The buttons always engage with a soft "click", also providing the car occupants with acoustic confirmation that the desired function has been activated.

Homogeneous illumination of the switch symbols with amber-coloured light ensures optimal recognition and accentuates the pleasing appearance of the interior when travelling at night.

Cockpit: precise information at a glance

The dial instruments with chrome bezels, black faces and white markings are illuminated in white and lie in the driver's primary field of vision to provide information on the vehicle speed (centre) and engine speed (right). The instruments indicating the coolant temperature and fuel level are located in the left cylinder of the instrument cluster. The use of "black-panel technology" means that the warning and control lamps are not visible during normal operation – they are only seen when the ignition is switched on or in the event of a fault.

In addition each dial instrument incorporates a display, e.g. showing the time (left), total and trip mileage, plus any warning messages (centre), and the outside temperature (right). The display functions can be selected using the twelve keys on the luxury multifunction steering wheel. In the centre of the speedometer there is a two-section, 4.5-inch display illuminated in white whose upper section can be used to show a variety of information such as the odometer reading, range, oil level, distance and time travelled, average fuel consumption and average speed. If a navigation system is fitted (optional in C 200 Kompressor and C 220 CDI, standard in C 280), this display area also indicates the route for the relevant journey. This display can also be used to select the radio station, telephone numbers and up to 50 individual settings.

In addition to various pictograms, the lower section of the central display shows the time, outside temperature, current gear and gearshift mode (with automatic transmission) and vehicle speed in digital form.

Control concept: everything in the right place

The control and display concept of the new C-Class is a logical and intelligent further development of the successful control system familiar from the luxury Mercedes models in the CL and S-Class. It is based on the recognition that technology can only be perfect if the driver intuitively understands and masters its operation. The Mercedes engineers were guided by four basic principles:

1. Easy identification of the most important control functions
2. Rapid access to the most important spontaneous functions
3. Easy, intuitive operation of the most important functions
4. All controls located in the right place

Rapid access to frequently used functions is a major characteristic of the control concept in the new C-Class. This means that the driver is not required to relearn, is able to retain old habits and immediately feels at home. All the control and display elements necessary and important during a journey are located in the cockpit, i.e. in immediate proximity to the driver. These are e.g. the switches and control stalks for the vehicle lights, wipers, indicators and cruise control (standard equipment with automatic transmission). In the same way, linking the standard multifunction steering wheel with the instrument cluster is an important precondition for rapid access to a wide range of information and functions in the driver’s direct line of vision.

Other functions such as infotainment, which are not of primary importance to the driver, are shown by the display at the centre of the dashboard. The driver and front passenger are able to operate these by using the controller on the centre console, or access the main menus using direct selection keys.

Following the "everything in the right place" principle, functions such as the power windows, central locking system and exterior mirrors are operated where one would expect to find the relevant switches and keys, namely in the doors.

Steering wheel: control centre

For rapid selection of these functions Mercedes-Benz has developed the controls on the standard multifunction steering wheel further: in ELEGANCE and AVANTGARDE models, or if the C-Class is equipped with a navigation system, the steering wheel has twelve circular, illuminated buttons which the driver operates by light thumb pressure. On the left-hand disc he is able to highlight one of the main menus in the central display in a horizontal direction, then access the required submenu vertically. The relevant selection or setting is confirmed by pressing the "OK" key at the centre of the disc. A separate "Return" key enables the driver to return to the next-higher menu level immediately.

The buttons on the right-hand side of the multifunction steering wheel are used to regulate the sound volume (vertical), switch to mute (centre) and operate the car phone (horizontal). Below this there is an additional button with which the driver can activate the LINGUATRONIC voice control system (standard with COMAND APS.

Controller: rotate, press and nudge

The controller positioned on the tunnel console is standard equipment if the C-Class is ordered with a factory-fitted radio or navigation system. It is linked to the clearly laid-out colour display in the centre of the dashboard, which is positioned well forward and is therefore directly in the driver’s line of vision. The rotary/pressure selector is of aluminium and can be moved in eight directions: the main and sub-menus in the display are selected by rotating the controller, which is then pressed to confirm the relevant function. The keys marked "R" and "C" in front of the controller make it possible to quit the submenus immediately or delete entries.

As the operating system for the infotainment units is designed with a high degree of redundancy, the radio, CD/DVD-changer, telephone and

navigation system can be accessed both via the controller and by control buttons. The latter are function keys in the centre console, which are so well positioned ergonomically that the driver is able to operate them easily and without diverting his eyes from the road.

Infotainment: choice of three top-class units

Three optional, high-performance units are available to provide infotainment to the occupants of the C-Class. All of these include speed-dependent volume control, a keypad for entering telephone numbers and radio frequencies, and a Bluetooth interface which wirelessly connects the car phone to the hands-free system:

Audio 20
This car radio with an integral **CD-player** (MP3-capable) includes an FM/MW/SW and LW dual tuner with automatic station search, RDS (with FM reception), direct frequency input via the keypad in the centre console, a **4x20-Watt amplifier** and eight loudspeakers. The Audio 20 unit is linked to a fixed **colour display** (4.9-inch) located in the centre of the dashboard, where it is well within the driver's field of vision and can be made to disappear beneath a cover when required; it continues to operate even when the cover is closed. The unit comes with an integral 6 CD-changer, and can be combined with a surround-sound system.

COMAND APS
The multimedia system **COMAND APS**, which was developed by Mercedes-Benz, offers even more functions than before in the new C-Class. One new feature is an Australia / New Zealand-wide **navigation system** whose data are stored on a hard disc (30 gigabytes). This allows particularly fast access to the navigation data, with even faster route calculation compared to DVD navigation. The **high-resolution maps** are shown on a **colour display** (7-inch) which pivots away and disappears beneath a cover at the touch of a

button. While providing route guidance, the navigation system gives **lane recommendations** to inform the driver e.g. which lane is appropriate when joining motorways. A so-called **junction zoom display** allows a more realistic graphic representation of road junctions. In addition COMAND APS for the first time includes a **music server** with a four-gigabyte memory. This enables the driver to store up to 1000 tracks from a CD, DVD or memory card. A **DVD-player** for video and audio is also included, and an integral 6 DVD-changer is fitted as standard equipment. Below the DVD slot, the unit has an adapter which enables various **PC memory cards** to be used to reproduce music files. Mercedes-Benz combines COMAND APS with the **LINGUATRONIC** voice control system as standard.

Sound system: digital technology for a new sound experience

On request, passengers in the new C-Class are able to enjoy a live concert-quality musical experience. This is made possible by the "Logic7" surround-sound system, which Mercedes-Benz developed together with the audio specialists harman/kardon®, and which celebrated its world debut in the S-Class in 2005. Based on technology never before seen in a car, this system delivers three-dimensional sound as a natural 360-degree musical experience for all passengers, whether from a DVD or CD source and from 5.1 surround or normal stereo recordings. The musical signals are distributed via a 450-watt amplifier connected to eleven loudspeakers and a bass box in the parcel shelf.

Voice control: LINGUATRONIC now even more "intelligent"

Mercedes-Benz is acknowledged as one of the inventors of modern voice control systems. The LINGUATRONIC voice control system has now been in use for many years, and benefits from continuous further development. For the first time, the navigation system in the C-Class can be operated by entering whole words, for example: the driver no longer needs to spell out the names of countries, towns or roads, but is able to speak them as whole

words. The voice control system is just as convenient when selecting radio stations or entries in the telephone directory: all the available or stored names are acted upon without any prior voice input training. Another new feature is the "Pause" function, which also relieves the driver's workload by allowing him to interrupt complex entries at any time without losing information he has already input.

With LINGUATRONIC Mercedes-Benz makes another important contribution to traffic safety, as the driver no longer needs to take his hands from the wheel to operate the car phone or audio units. In this way LINGUATRONIC reduces driver stress, allowing him to devote more attention to the road and traffic conditions.

In the new C-Class, Mercedes-Benz also uses voice synthesis to provide the driver with important traffic information affecting the route, or to read out SMS messages.

The improved LINGUATRONIC system is included as standard when the car is fitted with COMAND APS.

Climate control: technology with a feel-good factor

The new C-Class also makes significant progress versus the preceding model where climatic comfort is concerned. The engineers in Sindelfingen have newly developed two air conditioning systems – one of which, THERMATIC, is standard equipment in the new Saloon. Thanks to its sophisticated technology, the optional THERMOTRONIC system allows three-zone climate control in the interior -- a first in this vehicle class.

Both in terms of heating and cooling efficiency, these two air conditioners achieve even better values than before. The heating output has increased by around ten percent to eleven kilowatts, thereby matching the efficiency of the central heating system in a modern family home. In the diesel models, and depending on the outside temperature, a heat exchanger with six

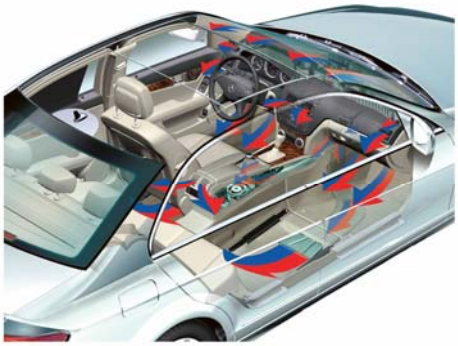
integral PTC heating elements (Positive Temperature Coefficient) comes into operation in support of the main heat exchanger. The support of this PTC heater is necessary, for owing to their greater thermal efficiency, today's CDI engines operate with outstanding fuel economy and therefore transfer considerably less heat to the coolant under partial load conditions than other engines.

The interior is cooled rapidly by an air conditioning unit whose output has been increased by 10 to 15 percent compared to the previous model. Its compressor is variable in operation, and therefore allows the unit to operate according to need, i.e. economically. The compressor is controlled by a solenoid valve which varies the swept volume.

The air conditioning systems for the new C-Class are not only more efficient, but also operate more quietly than before. Revised flow areas for the air intake, air ducts and air conditioning unit have enabled the noise level at maximum cooling output to be reduced by around three decibels (dB (A)).

Another important comfort feature is the prevention of draughts. To this end, Mercedes engineers have enlarged the cross-sections of the ventilation nozzles to reduce the speed of the airflow – and therefore the risk of annoying draughts. A total of 16 air vents provide the interior with effective, uniform ventilation. With the exception of the defroster vents below the windscreen and the vents in the footwells, the air volume is infinitely variable at all the vents. The THERMOTRONIC system also has an automatically controlled, upward-facing diffuser nozzle in the dashboard, which provides indirect and therefore draught-free ventilation.

Large, individually adjustable air vents for uniform air distribution



Sensors: temperatures, solar radiation and air quality under control

Sophisticated sensors ensure that the comfortable temperatures selected by the occupants remain constant. Two sensors measure the relevant interior temperature and provide the system with even more precise data with which to respond to temperature fluctuations even more rapidly. These measuring sensors are located in the overhead control panel and next to the electronic ignition switch. In addition, four sensors monitor the temperature of the air flowing from the air vents, allowing a continuous target vs. actual comparison to be made. Another sensor registers the intensity and direction of solar radiation. Using these data, the air conditioning system controls the air volume and temperature according to the driving or weather conditions to ensure that the occupants of the C-Class are able to enjoy a consistently high level of climatic comfort.

The sensors in the THERMOTRONIC system are supplemented with a dewpoint sensor and a pollutant sensor. Thanks to the dewpoint sensor, the air can be cooled depending on its humidity level as it flows in, and warmed up if required. This makes the air conditioning system operate even more economically. The pollutant sensor measures the levels of carbon monoxide and nitrogen oxides in the outside air, automatically switching to air recirculation mode if these pollutant levels suddenly increase.

Clean air in the interior is also ensured by a large, hermetically sealed combination filter which is standard equipment in the new C-Class. This retains 100 percent of all particles larger than ten micrometers, while absorbing unpleasant odours thanks to its activated charcoal lining. This filter is permanently active – even in air recirculation mode.

The practical tunnel closing function is another technical feature of THERMATIC and THERMOTRONIC: if the driver or front passenger press the air recirculation key on the air conditioning unit for more than two seconds, all open side windows and the sliding roof are automatically

closed; if the key is then pressed again for some time, they are reopened to the same position as before.

Other features and functions of the air conditioning systems at a glance:

THERMATIC

The standard THERMATIC is a two-zone automatic climate control system. The driver and front passenger are able to select the desired temperature using the attractively shaped control wheels below the centre console. Red LEDs show the selected values. The control display is illuminated by LEDs and shows the manually set air distribution and fan speed. The **Mono function** is also new: pressing a key synchronises both temperature controls and duplicates the driver’s settings on the front passenger side.

THERMOTRONIC

This **three-zone luxury automatic climate control** has additional functions for even more comfort – especially in the rear. THERMOTRONIC features a separate **control unit** in the tunnel console which enables passengers in the rear to select their own temperature preference. A **booster fan** likewise housed in the tunnel console also allows the air volume to be separately adjusted for the rear. This automatic climate control system enables the driver and front passenger to regulate not only the temperature, but also the air distribution individually. Pressing the "Rest" key activates the residual engine heat utilisation function, which heats or ventilates the interior for around 30 minutes after the engine has been switched off.

Agility and great comfort

- **Standard: shock absorbers adapt to the driving situation**
- **New: package with variable damping system and sport mode**
- **Innovative: ADAPTIVE BRAKE from the S-Class**
- **Varied: wide range of wheels and tyres**

Newly developed suspension technology creates the conditions for the agile yet comfortable driving characteristics of the C-Class. Mercedes engineers already designed these attributes during the early development phase, coordinating the features accordingly. Pioneering development processes such as digital prototyping helped to define, assess and improve the driving characteristics at an early stage – long before the first roadworthy test vehicles were produced. As a result, the high comfort and agility standards set by the preceding model have been improved upon even further.

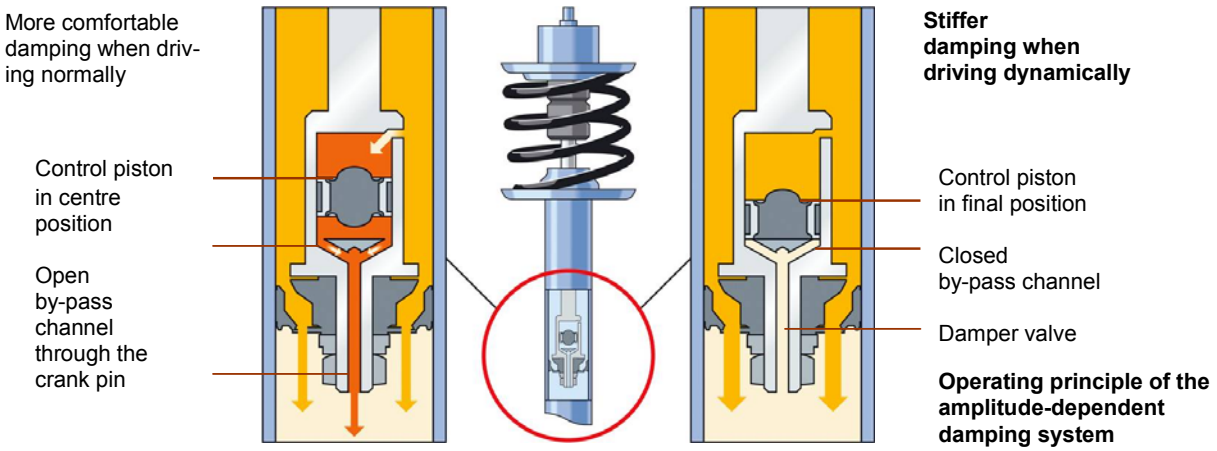
The longer wheelbase (45 millimetres more), wider track (44 and 76 millimetres more) and the low, far rearward position of the engine create two important preconditions for the new driving experience. Moreover, the more favourable axle load distribution ensures an almost perfect balance between the front and rear axles, as well as better traction and handling stability. Key figures at a glance:

	New C-Class	**Preceding model**
Track width* front rear	1549 mm 1552 mm	1505 mm 1476 mm
Wheelbase	2760 mm	2715 mm
Turning circle	10,84 m	10,76 m
Axle load distribution* front/rear	52.5/47.5 %	53.2/46.8 %

*for C 180 KOMPRESSOR, EC kerb weight incl. driver

AGILITY CONTROL – this is the term used by Mercedes-Benz for all new and further developments that improve both comfort and agility in equal measure. Foremost among these is the new AGILITY CONTROL suspension, which is standard equipment in the C-Class. This is based on an amplitude-dependent damping system: when driving normally with low shock absorber impulses, the damping forces are automatically reduced for a noticeable improvement in ride comfort -- but without any compromise in handling safety. When shock absorber impulses are greater, for example when cornering at speed or taking avoiding action, the maximum damping forces are set and the car is effectively stabilised.

This technology is purely hydromechanical and requires no complex sensors or electronics. It is mainly based on a by-pass channel in the crank pin of the shock absorber and a control piston moving within a separate oil chamber. When shock absorber impulses are low, the control piston forces oil through the by-pass channel to create a significantly smaller damping force at the damper valve. The resulting, "softer" shock absorber characteristics lead to a high level of ride comfort.



Operating principle of the amplitude-dependent damping system

If the shock absorber is subjected to larger impulses, the control piston moves to its final position and no more oil flows through the by-pass channel. This makes the maximum damping force available.

Accordingly this shock absorber technology makes an important contribution to the agile yet comfortable driving characteristics of the new C-Class. One indication of this is the maximum body roll angle when cornering, which is reduced by up to ten percent owing to the AGILITY CONTROL suspension -- without any loss of comfort.

Steering: more direct ratio and more safety during a frontal impact

The AGILITY CONTROL suspension of the new C-Class is complemented with a likewise newly developed rack-and-pinion steering system. This operates with a ratio of 14.5, and is therefore six percent more direct than the system of the preceding model. Positioning the steering gear 80 millimetres in front of the wheel centre makes for predictable self-steering characteristics with a slight tendency to understeer. The steering gear and valve housings are of aluminium, while the steering rack is of forged, high-strength steel and weighs 0.8 kilograms less than in the previous C-Class thanks to this material.

The reach and height-adjustable steering column also has a special, new feature which proves a positive benefit in the event of a frontal collision: when impacted by the driver, it telescopes together under controlled force and reduces the loads acting on the upper body. This also increases the deformation path by up to 100 millimetres.

Mercedes-Benz fits speed-sensitive power steering to the new C-Class as standard equipment on all model variants. This adapts the servo assistance to the vehicle speed: the lower the speed, the greater the servo effect. At speeds below 200 km/h the steering effort is continuously reduced as a function of vehicle speed, which means that only one third of the maximum steering effort is required when parking at slow speed. Variable centring is another new feature adopted from the S-Class: the electro-hydraulic speed-sensitive servo is used to generate a centring moment that increases with the speed and gives the driver a secure and stable feeling in the straight-ahead position. In slow driving, this additional steering moment is not

activated, so the benefits of the speed-sensitive steering can be fully exploited.

Three-link front suspension: detailed improvements

Safe handling, excellent agility, precise directional stability, high steering precision and outstanding ride comfort – the up-to-date front axle design also plays a major part in these attributes of the new C-Class. This is a three-link suspension with McPherson struts which Mercedes-Benz has developed further in various respects.

In the interests of favourable axle kinematics, greater vibration comfort and improved safety, the lower steering arm level consists of two separate elements acting as radius rods and cross-struts and made of forged aluminium. In addition to precise wheel location, this design has the particular advantage of compensating vibrations caused by unbalanced tyres of fluctuating brake forces better than rigid wishbones. It also provides longer deformation paths in the event of a frontal collision.

The third component in the three-link system is the track rod, which connects the transversely installed steering gear with the wheels. The reinforced stabiliser is linked to the spring strut, which is likewise heavily involved in front wheel location. The struts consist of cylindrical, lateral force compensated coil springs, twin-tube shock absorbers and newly developed, three-phase head bearings. If severe body roll occurs, the stabiliser is supported by rebound buffer springs to ensure agile handling accompanied by a high level of comfort.

The front axle component, steering gear, engine and transmission are pre-mounted on a so-called integral support. This is made from high-strength steel and is bolted to the side members of the bodyshell, which makes it a

major element of the front-end crash structure. During a frontal collision, the integral
support creates a separate load dissipation path which specifically absorbs the impact energy (see page 51). The connecting points between the integral support and the bodyshell have been considerably reinforced, and therefore have a higher initial rigidity when subjected to the forces and vibrations generated by the suspension. This makes itself felt in the form of more agile and precise handling.

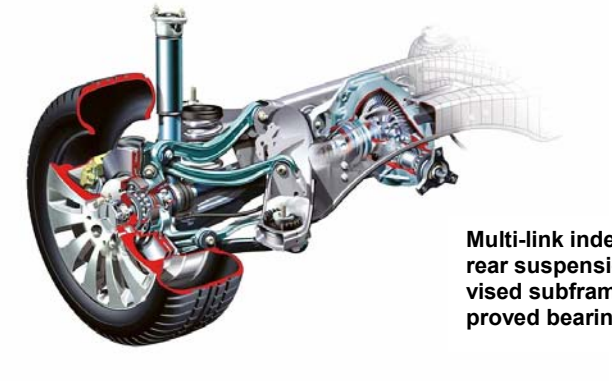
Multi-link independent rear suspension: unrivalled for safety and comfort

The career of the multi-link independent suspension began with the launch of the Mercedes-Benz 190 in 1983, and it still remains unsurpassed in many respects. Accordingly this patented suspension concept is also retained in the new C-Class, guaranteeing a level of handling safety, agility and comfort which is unsurpassed in this vehicle class.

The multi-link suspension principle is based on research examining the best possible movement characteristics for the rear wheels of a passenger car. If one regards the wheel in isolation, i.e. without any axle linkages, it has six possible movements available to it: it can push or pull in a vertical or horizontal direction, and it can turn in three directions. The aim of suspension engineers is to prevent such uncontrolled independence, however, and to limit the free movements of the wheel so that it can only move along a precisely defined spatial curve. Accordingly they have attached the wheel to five flexibly mounted, independently acting control arms which limit five of the available spatial movements:

1. The **lower transverse arms** activate the suspension springs and dampers
2. The **upper transverse arms** regulate the camber over the spring travel
3. The **radius rods** take up the drive and braking forces, and compensate dive and squat when accelerating and braking

4. The **diagonal struts** are arranged differently from the radius rods, and likewise prevent dive and squat when accelerating and braking
5. The **track rods** limit changes in the wheel's toe-in to a desirable minimum



Multi-link independent rear suspension with revised subframe and improved bearings

Owing to this intelligent control arm design, each rear wheel basically retains freedom of movement only on one plane, namely during controlled compression and rebound. Mercedes-Benz has improved this patented and multiple award-winning suspension technology even further for the new C-Class. Revisions include e.g. the subframe and its bearings, which are now supported by the bodyshell on two levels by means of an additional strut. The major results of these modifications are reduced weight and improved ride and vibration comfort.

Brakes: ADAPTIVE BRAKE with useful support functions

With ADAPTIVE BRAKE, the new C-Class also sets new standards in this vehicle class where brake technology is concerned. This system is based on the technology of the S-Class, and provides additional support functions for even more safety and comfort. One example is the brake priming function in critical situations: when the driver abruptly moves his foot from the accelerator to the brake pedal before emergency braking, the system increases the pressure in the brake lines and brings the brake linings into light contact with the brake discs, so that they are then able to bite immediately and with full force when the brake pedal is depressed. In this way the system supports the functions of the standard Brake Assist.

ADAPTIVE BRAKE also has safety benefits in the wet: the system applies regular, brief braking impulses to wipe the film of water from the brake discs and ensure that the brakes are able to perform at their peak. This automatic brake drying function is always activated when the windscreen wipers of the C-Class have been operating for a certain time. The driver does not notice the finely metered braking impulses.

The braking system also assists the driver when moving off on an uphill gradient. When the sensor system detects that the Saloon has come to a stop on a gradient, the hill holder function is activated automatically and maintains a constant brake pressure for a short time to prevent the car from rolling backwards. This gives the driver enough time to move his foot from the brake to the accelerator without first engaging the parking brake.

Large-diameter front and rear brake discs create the technical basis for reliable deceleration. Depending on the engine version, their diameter is up to 322 millimetres at the front and up to 300 millimetres at the rear. A tandem brake servo unit which has been enlarged to eight inches versus the preceding model meets every expectation with respect to responsiveness and operating comfort.

Data and dimensions at a glance:

Front axle	**C 200 KOMPRESSOR, C 280, C 220 CDI**
Brake calliper	Fixed calliper
Piston diameter	60 mm
Brake disc	Internally ventilated
Diameter	295 mm
Thickness	28 mm
Rear axle	

Brake calliper	Fixed calliper
Piston diameter	38 mm Solid
Brake disc	300 mm
Diameter	10 mm
Thickness	

The pedal cluster of the new C-Class has a special technical feature. For the first time, Mercedes-Benz uses a hybrid construction of steel and plastic in the manufacture of the pedal support. This offers weight advantages and requires less installation space than the previous technology. The brake pedal made from two welded half-shells is attached to this pedal support; this shell construction also helps to save weight, while providing high torsional rigidity and flexural strength.

Control systems: ESP® with new control logic and trailer stabilisation

With the anti-lock braking system (ABS), acceleration skid control (ASR), Brake Assist (BAS) and the Electronic Stability Program (ESP®) as standard equipment, the C-Class also features state-of-the-art technology where dynamic safety systems are concerned. Mercedes engineers have extended the functions of these systems and made detailed technical improvements. ESP® now has a new control logic which assists the driver even more effectively in critical cornering situations, for example: by means of precisely metered braking impulses at up to three wheels, accompanied by a moderate drop in speed, the Saloon is made to turn safely into bends.

A further additional function of the Electronic Stability Program improves safety when towing a trailer. The new ESP® trailer stabilisation function detects any dangerous tendency of the trailer to swing from side to side, and automatically brings it safely back on course by means of braking impulses at the wheels of the towing vehicle. On request Mercedes-Benz will equip the C-Class with a pivoting trailer coupling whose ball head need not be fitted or removed. Instead it pivots away beneath the body together with its electrical socket, and is therefore out of sight when not in use. The

maximum trailer load of the new Saloon is 1250 kilograms (braked trailer), with a maximum permissible downward towball load of 75 kilograms.

The Electronic Stability Program also monitors the air pressure in the tyres, and warns the driver if there is a sudden loss of pressure anywhere. To this end the system continuously compares the wheel rotation speeds, which mainly depend on the vehicle speed, vehicle load and tyre pressures. In addition the control unit automatically monitors other dynamic parameters such as the lateral acceleration, yaw rate and wheel torque in order to diagnose any pressure loss in a tyre reliably. It is therefore able to detect any significant deviations and inform the driver via the central display.

Wheels and tyres: individuality ex factory

The range of available wheels and tyres provides a great deal of scope for equipping the new C-Class to the customer's personal taste. As standard equipment, the CLASSIC variant of the C 200 KOMPRESSOR leaves the assembly line with 16-inch light alloy wheels in 7-spoke design with 205/55 R 16 tyres. The wheel/tyre combinations at a glance:

CLASSIC		**C 200 KOMPR.**, **C 220 CDI**
		LA wheels in a 7-spoke design 7 J x 16 ET 47, 205/55 R 16
ELEGANCE	**C 200 KOMPR.,** **C 220 CDI**	**C 280**
	LA wheels in a 12-spoke design 7 J x 16 ET 43; 205/55 R 16	LA wheels in a 12-spoke design 7.5 J x 17 ET 43; 225/45 R 17
AVANTGARDE	**C 200 KOMPR., C 220 CDI, C 280**	
	LA wheels in a five twin-spoke design 7.5 J x 17 ET 47; 225/45 R 17	

* ELEGANCE or AVANTGARDE lines

Further wheel/tyre combinations are available ex factory as optional extras.

Power with the fun factor

- **Better: four-cylinder engines improved in many respects**
- **More powerful: torque increased by up to 18 percent**
- **Quieter: C 220 CDI with outstanding smoothness**
- **More economical: six percent fuel saving for the supercharged engine**

With a remarkable boost in output by up to 12.5 percent and an increase of around 18 percent in torque, the engines also do more than their bit to create the lively nature of the new C-Class. The four and six-cylinder units not only excel with powerful responsiveness, but also contribute to the excellent ride comfort of the Saloon with their improved smoothness. By virtue of this successful synthesis of agility and comfort, the C-Class underlines its claim to leadership in this market segment.

Mercedes-Benz has paid particular attention to further development of the four-cylinder engines. In the petrol range, the **C 200 KOMPRESSOR** develops 15 kW more than before. It has an output of 135 kW and generates its maximum torque of 250 newton metres from 2800 rpm.

These modified engines considerably improve the performance and fuel consumption of the four-cylinder models. When accelerating from standstill to 100 km/h, the C 200 KOMPRESSOR is 0.5 seconds faster than its predecessor. Improvements in fuel consumption are equally impressive: the C 200 KOMPRESSOR has been reduced by 0.5 litres per 100 kilometres. The measures taken to achieve this higher output and improved torque include the use of modified engine timing, a more dynamic supercharger and improved pistons. With a compression ratio of 8.5 : 1 (C 200 KOMPRESSOR), this four-cylinder engine is designed to run on unleaded premium petrol (95 RON).

The modern V6-engine in the new C 280 is an ideal blend of power, torque and efficiency, developing 170 kW of power. Its technical highlights include variable camshaft adjustment for the intake and intake sides, a variable intake manifold and intake ports with so-called tumble flaps. This technology produced a higher output and torque yield while reducing fuel consumption.

Key data for the petrol engines at a glance:

	C 200 KOMPRESSOR	**C 280**
Cylinders	4 in-line	V6
Displacement	1796 cc	2996 cc
Output	135 kW/	170 kW/
Max. torque	250 Nm at 2800-5000 rpm	300 Nm at 2500-5000 rpm
0 – 100 km/h	8.6 s	7.3 s
Max. speed	210 km/h (Limited)	210 km/h (Limited)
Comb. fuel consumption	7.9 l/100 km	9.4 l/100 km

Diesel engines: four-cylinder unit with considerably more output and torque

Further development of the four-cylinder unit was also the main focus for the diesel engine, and the results are more than respectable: with considerably more output and torque, the common-rail unit consumes up to 0.3 litres per 100 kilometres less fuel than in the preceding series. In the New European Driving Cycle (NEDC), the C 220 CDI are able to travel 100 kilometres on just 6.7 litres of fuel – which means that the diesel saloons are able to cover a distance of around 1000 kilometres on one 66-litre tank filling.

The engineers in Stuttgart have made further improvements to the engine itself, the turbocharger and the common-rail direct injection system, modifying more than 90 components. For example:

- To increase engine output, the compression ratio was lowered from 18.0 : 1 to 17.5 : 1. Shorter **connecting rods** and higher **pistons** also contribute to this.

- The **air ducting** in these engines was improved in terms of pressure losses and lower noise.

- The **intercooler** and **turbocharger** were modified to improve the responsiveness of the CDI engines even more in the lower engine speed range, while further reducing nitrogen oxide emissions.

- The **cylinder head** has a new cooling concept which allows better performance characteristics.

- Mercedes engineers have developed the **injection system** further, e.g. achieving more progress in demand-related fuel metering by the use of a solid-borne vibration sensor. The benefits of this include a noticeable reduction in combustion noise.

- **Ceramic glow plugs**, which reach higher temperatures than the previous metallic glow plugs, improve the starting and cold-running characteristics of the diesel engines.
- **Balancer shafts in the crankcase,** which counter-rotate at twice the speed of the crankshaft, compensate inertia forces and ensure the smooth, quiet running typical of a six-cylinder engine.

As a result of these measures the C 220 CDI develops a peak output of 125 kW (previously 110 kW), and generates a torque of 400 newton metres from 2000 rpm -- around 18 percent more than before. Key data for the CDI models at a glance:

	C 220 CDI
Cylinders	4 in-line
Displacement	2148 cc
Output	125 kW
Max. torque	400 Nm at 2000 rpm
0 – 100 km/h	8.4 s
Max. speed	210 km/h (Limited)
Comb. fuel consumption	6.7 l/100 km

*available from autumn 2007;

Emissions control

The emissions control system for the four-cylinder petrol engine is also a two-stage process, consisting of a near-engine mounted three-way catalytic converter with control and diagnostic sensors, plus an additional underfloor catalytic converter. In the V6 model, air-gap insulated exhaust manifolds and twin-walled, insulated catalytic converter bodies ensure that these reach

their optimal operating temperature more rapidly after cold-starting. In this case the exhaust system is of twin-pipe design with chrome tailpipes, and no underfloor catalytic converter is required. As in the petrol models, the exhaust system of the diesel model is completely of stainless steel and meets the highest standards in terms of a long operating life.

Transmission: Smooth automatics and AGILITY CONTROL for rapid and precise gearshifting with the manual transmission

The C 280 is equipped with 7G-TRONIC, the world's only seven-speed automatic transmission, as standard. The four-cylinder C 200 Kompressor and C 220 CDI come equipped with a five-speed automatic transmission as standard equipment.

A six-speed manual transmission with AGILITY CONTROL gearshift for a short, precise shift travel is available for the C 200 Kompressor as a factory-fitted option (5-speed automatic is standard fitment). A manual transmission is not available for the C 220 CDI or the C 280.

- end -

Mercedes-Benz C 220 CDI

Engine		
Cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement cc 2148		
Bore x stroke	mm	88.0 x 88.3
Rated output	kW	125 at 3800 rpm
Rated torque	Nm	400 at 2000 rpm
Compression ratio		17.5 : 1
Mixture formation		High-pressure fuel injection with common-rail technology, turbocharger, EDC
Power transfer		
Transmission		Five-speed automatic with Touchshift
Ratios Final drive		2.650
1st gear		3.595
2nd gear		2.186
3rd gear		1.405
4th gear		1.000
5th gear		0.831
Reverse		3.167
Running gear		
Front axle		Three-link suspension, anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Rear axle		Multi-link independent suspension, anti-squat and anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Brakes		Disc brakes all-round, internally ventilated at the front, solid at the rear, drum-type parking brake at the rear, ABS, Brake Assist, ESP®
Steering		Rack-and-pinion power steering, steering damper
Wheels		7 J x 16
Tyres		205/55 R 16
Dimensions and weights		
Wheelbase mm 2760		
Track width front/rear	mm	1541/1544
Overall length	mm	4581
Overall width	mm	1770
Overall height	mm	1444
Turning circle	m	10.8
Boot capacity max.*	l	475
Kerb weight acc. to EC	kg	1585
Payload kg 485		
Perm. gross vehicle weight	kg	2070
Tank capacity/reserve	l	66/8
Performance and fuel consumption		
Acceleration 0-100 km/h	s	8.4
Max. speed	km/h	210 (limited)
Fuel consumption comb.	l/100 km	6.7

*acc. to VDA measuring method

Mercedes-Benz C 200 KOMPRESSOR

Engine		
Cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement cc 1796		
Bore x stroke	mm	82.0 x 85.0
Rated output	kW	135 at 5500 rpm
Rated torque	Nm	250 at 2800-5000 rpm
Compression ratio		8.5 : 1
Mixture formation		Microprocessor-controlled fuel injection, hot film air mass sensor
Power transfer		
Transmission		Five-speed automatic with Touchshift
Ratios Final drive		3.070
	1st gear	3.951
	2nd gear	2.423
	3rd gear	1.486
	4th gear	1.000
	5th gear	0.833
	Reverse	3.147
Running gear		
Front axle		Three-link suspension, anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Rear axle		Multi-link independent suspension, anti-squat and anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Brakes		Disc brakes all-round, internally ventilated at the front, solid at the rear, drum-type parking brake at the rear, ABS, Brake Assist, ESP®
Steering		Rack-and-pinion power steering, steering damper
Wheels		7 J x 16
Tyres		205/55 R 16
Dimensions and weights		
Wheelbase mm 2760		
Track width front/rear	mm	1541/1544
Overall length	mm	4581
Overall width	mm	1770
Overall height	mm	1444
Turning circle	m	10.8
Boot capacity max.*	l	475
Kerb weight acc. to EC	kg	1490
Payload kg 485		
Perm. gross vehicle weight	kg	1975
Performance and fuel consumption		
Acceleration 0-100 km/h	s	8.8
Max. speed	km/h	210 (limited)
Fuel consumption comb.	l/100 km	8.2

*acc. to VDA measuring method

Mercedes-Benz C 280

Engine		
Cylinders/arrangement		6/V, 4 valves per cylinder
Displacement cc 2996		
Bore x stroke	mm	88.0 x 82.1
Rated output	kW	170 at 6000 rpm
Rated torque	Nm	300 at 2500-5000 rpm
Compression ratio		11.3 : 1
Mixture formation		Microprocessor-controlled fuel injection, hot film air mass sensor
Power transfer		
Transmission		7G-TRONIC Seven-speed automatic transmission with Touchshift
Ratios Final drive		3.070
1st gear		4.377
2nd gear		2.859
3rd gear		1.921
4th gear		1.368
5th gear		1.000
6th gear		0.820
7^{th} gear		0.728
Reverse		3.416
Running gear		
Front axle		Three-link suspension, anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Rear axle		Multi-link independent suspension, anti-squat and anti-dive, coil springs, gas-pressure shock absorbers with amplitude-dependent damping system, stabiliser
Brakes		Disc brakes all-round, internally ventilated at the front, solid at the rear, drum-type parking brake at the rear, ABS, Brake Assist, ESP®
Steering		Rack-and-pinion power steering, steering damper
Wheels		7 J x 16
Tyres		205/55 R 16
Dimensions and weights		
Wheelbase mm 2760		
Track width front/rear	mm	1541/1544
Overall length	mm	4581
Overall width	mm	1770
Overall height	mm	1444
Turning circle	m	10.8
Boot capacity max.*	l	475
Kerb weight acc. to EC	kg	1555
Payload kg 485		
Perm. gross vehicle weight	kg	2040
Performance and fuel consumption		
Acceleration 0-100 km/h	s	7.2
Max. speed	km/h	210 (limited)
Fuel consumption comb.	l/100 km	9.6

*acc. to VDA measuring method