

Mercedes-Benz C 55 AMG

The most sporty C-Class ever – made by Mercedes-AMG

An AMG V8 engine with 5.5 litres of displacement, 270 kW/367 hp and 510 Nm of torque — Mercedes-AMG GmbH is rolling out its most sporty C-Class ever: the new C 55 AMG. With these figures, the AMG high-performance car has posted new records for its segment. The eight-cylinder top model guarantees excellent driving performance and ensures the very best in driving pleasure thanks to the AMG SPEEDSHIFT five-speed automatic transmission that employs steering-wheel shifting. The car has extremely dynamic handling as a result of the new, more rigid AMG sport chassis, including the newly tuned ESP[®], the AMG high-performance braking system and the more directly transferred steering. As far as looks go, the new eight-cylinder top model stands out from other members of the C-Class, and its unique design creates a dynamic impression thanks to its reworked front end and wider track, 18-inch AMG light-alloy, double-spoke wheels, AMG styling, rear trailing edge (saloon only) and sporty AMG exhaust system with chrome-plated twin tailpipes.

The C 55 AMG's interior really stands out, thanks to its exclusive sporty equipment and first-class ambience. Excellent lateral support is provided by the new AMG sport seats covered with nappa leather and featuring shoulder-height Alcantara inserts. The strikingly styled sporty AMG steering wheel with gearshift buttons and the new AMG instrument cluster with its classic round gauges enhance the vehicle's dynamic appearance. The market introduction of the saloon and estate-car versions of the C 55 AMG will begin in April 2004 at the same time as the new generation C-Class.

Athletic, muscular and nicely proportioned — this is how the new Mercedes-Benz C 55 AMG looks. The redesigned front end signals the vehicle's technological uniqueness. The dominant feature beneath the bonnet is the large power package — an eight-cylinder AMG engine with 5.5 litres of displacement, 270 kW/367 hp and 510

Nm of torque. As a result, the C 55 AMG outperforms its predecessor model, the C 32 AMG, with an additional 10 kW/13 hp and 60 Nm and races ahead of all other vehicles in its competitive segment.

Sports car performance and dynamic driving pleasure

The powerful drive system enables the vehicle to offer high-level sports car performance and dynamic driving pleasure: It takes only 5.2 seconds (saloon) or 5.4 seconds (estate) to jump from zero to 100 km/h. The maximum speed is electronically limited to 250 km/h.

Teamed up with AMG SPEEDSHIFT and steering-wheel gear changing, the C 55 AMG offers a unique power package. The gears of the five-speed automatic transmission can be changed by touch control on the selector lever or by buttons on the new ergonomic AMG sports steering wheel. In the manual shift program "M," no down-shifting occurs even at full throttle and kick-down. As a result, the driver can fully tap the eight-cylinder engine's high torque. In addition, AMG SPEEDSHIFT offers torque converter lockup, optimal gear function, automatic braking deceleration and faster gear changing, thus creating a truly thrilling driving experience.

New AMG sport chassis with more rigid tuning

Agile and dynamic are the features characterizing the more rigid AMG sports chassis of the C 55 AMG. The car's handling is made even more precise and sporty thanks to a number of features: new springs and shock absorbers and harder bearings for the wheel suspension that work together with a seven-percent more directly transferred steering system and a 14 millimetre wider front-axle track. AMG's 18-inch light-alloy, double-spoke wheels, the powerful AMG braking system and the Electronic Stability Programme (ESP[®]) that is outfitted with a new type of traction function satisfy the highest demands for dynamic handling.

Unique look and redesigned interior

One look at the car's new front end and powerful tail end shows that the new C 55 AMG is in a class of its own. The bonnet, fenders, headlights and radiator grille have been redesigned, as has the vehicle's rear. AMG styling and a trailing edge on the boot cover (saloon only) are among the C 55 AMG's standard features. The new sporty AMG exhaust system with two chrome-plated twin tailpipes serves as a visual highlight for the vehicle. But there is more than meets the eye: The unmistakable sound of the V8 engine adds a further dynamic feature to the new AMG model.

The car's new sportiness also can be seen in the eye-catching interior: New AMG sports nappa leather seats with shoulder-height Alcantara inserts to ensure optimal lateral support. These inserts are also found on the outside back-row seats. At the driver's seat, your eye is caught by the new AMG instrument cluster equipped with four classic round gauges and the ergonomic sports steering wheel with gear-shifting buttons.

Successful AMG top models of the C-Class

AMG's top C-Class models traditionally serve as cornerstones of Mercedes-AMG's success. They also are among the most popular vehicles in the entire AMG product range. The C 36 AMG introduced in 1993 marks a milestone for the vehicles, since it was the first AMG vehicle to be developed and sold as the result of a partnership agreement between Daimler-Benz and AMG. In 1997, the first successor model with an eight-cylinder engine, the C 43 AMG, was introduced. And, for the first time, an estate-car version became available. In 2001, the C 32 AMG equipped with a super-charged V6 engine and based on the totally new C-Class was presented.

With 260 kW/354 hp, it moved to the head of the pack in its class. A year later, the first diesel sports car, the new C 30 CDI AMG, appeared. Over a period of 10 years, around 19,200 sporty C-Class models from AMG were sold.

Engine

Large-displacement eight-cylinder power package

- _ **Maximum power: 270 kW/367 hp at 5,750 rpm**
- _ **Maximum torque: 510 Nm at 4,000 rpm**
- _ **Optimal value: 5,439 cc displacement**
- _ **More than three decades of motor racing at AMG: V8 with a high-tech design**

Superior performance and torque as well as high technology straight from the race

track — the large-displacement eight-cylinder power package in the new C 55 AMG is

sure to thrill auto lovers the world over. The AMG V8 with 5,439 cc displacement

provides 270 kW/367 hp at 5,750 rpm and develops a maximum torque of 510 Nm

at 4,000 rpm. No other vehicle in this competitive segment produces such impressive figures.

At about 2,000 rpm, the AMG high-performance engine can already deliver more than

400 Nm of torque, creating ideal conditions for dynamic acceleration and elasticity. But

there is something more at work here than the kick delivered by the high engine speeds

and the responsiveness to even the slightest movement of the gas pedal. It is the

enormous torque of the high-displacement, naturally aspirated engine. Thanks to the

enormous reserves of power, casual cruising in the upper gears becomes a sheer

pleasure and enhances the new C 55 AMG's special allure.

Engine design benefits from more than three decades of AMG motor racing

The eight-cylinder engine equipped with three-valve technology and a twin-ignition

system is loaded with high technology straight from the race track. In designing the

engine, the engineers at Mercedes-AMG GmbH were able to call on the deep knowledge gained over more than three decades of motor racing. Cast pistons made

of aluminium are used in the cylinders. Specially developed oil-gun jets keep the 2

pistons cooled even during peak stress. "Hand-crafted" camshafts, a newly developed double-flow induction-pressure unit and a specially tuned variable induction pipe ensure that the cylinders are optimally filled at all engine speeds and create the technical basis for the engine's sporty character.

Newly developed AMG sport exhaust system with low emission levels

The totally redesigned exhaust system equipped with wider pipes and modified mufflers reduces the exhaust back pressure and promotes higher power and torque

levels. Four ceramic catalytic converters teamed up with secondary air injection and

AMG's specially tuned engine management system ensure highly effective emission

control. None of the emission limits in effect around the world pose any problem for

the C 55 AMG. It even meets the EU4 exhaust standard scheduled to take effect in

2005. The AMG sport exhaust system with its two oval chrome-plated twin tailpipes

serves as more than an eye-catcher at the back of the vehicle. Its unmistakable V8

sound also expresses the dynamic character of the new AMG V8 top model in the

C-Class.

A quick look at the C 55 AMG's most important data: 3

Mercedes-Benz

C 55 AMG

Cylinders/valves

V8/3

Displacement (cc)

5,439

Bore x stroke (mm)

97.0 x 92.0

Compression ratio

11.0 : 1

Performance (kW/HP)

at rpm

270/367

5,750

Max. torque (Nm)

at rpm

510

4,000

0-100 km/h (s)

5.2 (5.4)

0-200 km/h (s)

18.6 (18.8)

Top speed (km/h)

250*

NEDC combined consumption l/100 km

11.9 (12.3)

Emission class EU4

* electronically limited; values in parentheses: C 55 AMG estate

The state-of-the-art light-weight AMG engine weighs only 172 kilograms in a dry state.

The weight distribution is almost completely even, which helps vehicle handling.

Hand-made engines at the AMG plant

The AMG eight-cylinder engine is produced at AMG's engine facility. In accordance

with the philosophy of "one man, one engine", an AMG technician puts together the

complete engine by hand. As a result, he is responsible for everything from the installation of the crankshaft in the engine block to the assembly of the camshaft and

the cables and oil fill-up. Once the engine is finished, the technician signs the engine

tag to clearly show who is responsible for the product. The engine is then tested with

simulated loads and pressure build-up at the so-called cold test bed.

AMG SPEEDSHIFT with Formula-1-style steering-wheel gearshift

- **Manual shifting buttons on the new ergonomic AMG sport steering wheel**
- **Driving programmes "M," "C" and "S" ensure individuality behind the wheel**
- **M programme without upshift function for even more dynamic driving**
- **Typical Mercedes durability through strengthened powertrain**

As standard equipment, the C 55 AMG has AMG SPEEDSHIFT, a five-speed automatic transmission responsible for delivering power to the rear axle. This system can accommodate both a dynamic as well as a comfortable style of driving. Drivers can decide for themselves whether the gears are to be shifted manually or automatically. They can choose between the transmission selector lever of the touch control or (in a manner similar to Formula 1 vehicles) two shifting buttons on the ergonomic AMG sport steering wheel.

With the manual "M" programme, the driver can take particularly good advantage of the AMG V8 engine's high torque because automatic downshifting is eliminated during full throttle or kickdown. The transmission remains in the selected gear. In addition, the AMG SPEEDSHIFT's manual drive programme doesn't have any automatic upshift function when the rpm limit is reached. This enables the sporty driver to better use the C 55 AMG's performance potential. In all three driving programmes, the gears can be shifted manually by using the buttons on the steering wheel or the selector lever. As a result, AMG SPEEDSHIFT offers more individual possibilities while also making operation easier and increasing safety.

Direct driving experience through torque converter lockup starting at first gear

In "C" (comfort) mode, the automatic transmission shifts gears in a particularly gentle and smooth way. The downshifting takes place later, and the shifting of the next highest gear is initiated as early as possible. In "S" (standard) mode, the automatic transmission gears down earlier to ensure more dynamic handling. The engine always runs at higher speeds.

AMG SPEEDSHIFT also features active brake downshifting, optimal gear functioning and the torque converter lockup starting in first gear. These provide a very direct driving experience when teamed up with gear changes that are more responsive and up to 35 percent faster.

Strengthened drive train and additional rear-axle cooling

The high performance and torque potential of the AMG eight-cylinder engine requires a strengthened drive train. To ensure the best in stability and Mercedes' typical durability, the engineers at Mercedes-AMG used large components. In addition, the cooling element on the rear-axle differential lowers the oil temperature by up to 15 degrees Celsius when the car is travelling at top speed or is under very dynamic stress.

Extensive attention to detail for enhanced dynamic handling

- **More rigid AMG sport chassis and reworked elastokinematics**
- **Completely retuned dynamic-drive control system**
- **More direct steering ratio for more precise handling**
- **AMG 18-inch light-alloy, double-spoke wheels**
- **Well-equipped AMG high-performance brake system**

More fun behind the wheel and improved dynamic handling without any major sacrifice of comfort — these were the goals laid down for the chassis development of the new C 55 AMG. The responsible engineers and technicians at Mercedes-AMG GmbH focused on three areas in their developmental work: chassis tuning, dynamic-drive control system and wheel-tyre combinations. All components and systems had to be adapted to the new V8 engine in order to achieve extra sportiness.

The new AMG sport chassis makes a significant contribution to boosting the dynamic handling. Springs with a 20-percent higher rigidity, harder gas shock absorbers with degressive characteristics and a bigger stabilizer on the rear axle (only in the C 55 AMG estate) not only make the most of out of the road but also reduce the body roll that happens when a car drives rapidly through a curve and the roll angle in alternating curves. The elastokinematics were reworked on both axles: Both the tension strut on the McPherson three-link front axle and the spring suspension link of the multi-link independent rear suspension are harder. As a result, driving through curves becomes much more precise. The noticeable gains in steering precision and spontaneity have been achieved without any noticeable loss in suspension comfort.

Dynamic-handling control systems comprehensively overhauled

All of the dynamic-handling control systems, such as the ABS anti-lock braking system, the braking assistant, the ASR acceleration skid control system, and the ESP[®] Electronic Stability Program, were reworked and modified in comprehensive calculations and test drives. For example, the acceleration skid control system now has a traction function when the ESP[®] is shut off. When a car enters a curve at high speed, the system determines when the back tyre on the inside part of the curve starts to slip and can brake it to a precisely calculated degree. The effect that is created corresponds to that of a mechanical locking differential and promotes the traction of the driven wheels. Even when shut off, the ESP[®] recognizes a potentially unstable driving situation, for example when the driver suddenly applies the brakes. Within milliseconds, the ESP is completely available again. A potential accident can thus be prevented. What's more, the control processes in all operating conditions have been made more harmonious.

Steering ratio now seven percent more direct

Just like all of the variants of the new generation C-Class, the C 55 AMG also profits from the modified power steering system. The steering ratio is now seven percent more direct, thus improving the vehicle's handling and steering precision. These improvements deliver a major dose of behind-the-wheel fun to sporty drivers in particular.

The new 18-inch AMG light-alloy, double-spoke wheels being used as standard equipment for the first time in the C-Class create a spontaneous, dynamic form of handling. The front axle has tyres in the 225/40 ZR 18 format on 7.5-inch-wide rims. On the back the dimensions are 245/35 ZR 18 on 8.5-inch-wide rims. The track of the front axle has been expanded by 14 millimetres, improving driving stability and steering behaviour.

The robust AMG high-performance braking system guarantees a high degree of driving safety. Large, inner-ventilated disc brakes on the front and rear axles — the front discs are also perforated — enable first-class braking deceleration. When the brakes are fully applied at 100 km/h, the C 55 AMG comes to a halt in fewer than 36 metres.

Unmistakable dynamics even at a standstill

- **Self-contained front-end module and AMG style**
- **Two different 18-inch AMG light-alloy wheels available**
- **New AMG sports seats with Alcantara inserts for greater lateral support**
- **AMG instrument cluster and AMG sports steering wheel with gear-shift buttons**

The new C 55 AMG stands out from the successful models of the Mercedes-Benz C-Class through its dynamic, individual look as well as its exclusive interior equipment package.

One eye-catching feature is the new design of the front end: Because of the new packaging dimensions created by the AMG 5.5-litre eight-cylinder engine, the front-end module had to be extended by 80 millimetres. The change additionally lengthens the lines of the V8 top model. The radiator grille and the headlights were redesigned along with the front apron and the wider fenders.

The expressive, harmoniously integrated AMG style comes as standard. This includes the new, steeply lowered front apron with large air intakes and round, clear-glass fog lights, the side-skirt cover and the rear apron. The trailing edge on the bonnet cover (saloon model only) reduces the lift by up to 30 percent and noticeably improves driving stability at high speeds. The view from the rear is dominated by the twin pairs of double chrome tailpipes that are part of the new AMG sport exhaust system. Their unmistakable V8 sound lends an additional dynamic element to the new AMG top model. The new brilliant-look tail lamps and clear-glass indicators set in the exterior mirrors are also attention-grabbing.

Two different 18-inch AMG light-alloy wheels available

The attractive 18-inch double-spoke wheels also serve as a key element in the vehicle's appealing look. The sterling silver AMG light-alloy rims come in two widths: 7.5 inches on the front axle and 8.5 inches on the rear axle. The wide-profile tyres also come in two sizes: 225/45 R 18 and 245/35 R 18. The car also has optional five-spoke light-alloy wheels that come in the same sizes.

The dynamic character of the C 55 AMG is enhanced by the new, upgraded interior design. Particularly when the car speeds through a curve, the passengers will benefit from the completely new AMG sport seats. Optimal lateral support is provided not only by the reshaped seat cushions and backs but also by the Alcantara inserts in the shoulder area. These are located on the left and right sides of the front sport seats. Each of the outer seats on the rear row has one Alcantara insert as well. The AMG sport seats are also perfectly suited for long journeys thanks to the electronic height and back adjustment system for the seats, independent seat design and leather perforation, and the AMG emblem on the backs. The exclusive style of the eight-cylinder top model is also reflected in the high-quality nappa leather, which comes in anthracite or alpaca grey and is used on the seats, selector lever and the mid-section of the doors, including the arm rests.

New instrument cluster and sport steering wheel from Mercedes-AMG

The instrument panel stands for uncompromising sportiness. The new AMG instrument cluster with its four classic round gauges shows the great attention to detail that went into the car. It has a series of chrome-trimmed instruments with silver centres, a 320-km/h speedometer, red needles and "V8" and "AMG" emblems. The new AMG sport steering wheel is a pleasure to see and touch. The handling profits from the steering-wheel rim and the moulded thumb supports. Two gear-shift buttons are installed on the rear of the three-spoke steering wheel. The multi-function buttons that operate the radio and central display are located in the two horizontal spokes.

The interior of the C 55 AMG is outfitted with ornamentation in Alu Linea as standard. Dark birdseye maple is available as an additional option. Brushed stainless-steel door tread panels featuring the AMG logo round out the stylish, dynamic interior.

The C 55 AMG has also profited from the new generation of the C-Class model series. Plastics with new types of grains, attractive uses of chrome and glossy edges on the door trim panels intensify the elegant impression made on passengers.

The comprehensive standard and safety features include:

- Airbag and sidebag for the driver and front-seat passenger as well as window bags for the driver, front-seat passenger and back-seat passengers
- Seat-belt tensioners and seat-belt load limiters for the driver and front-seat passenger and for the passengers on the outside rear seats
- ISOFIX child-seat anchoring in the rear
- Long-cargo channel
- THERMATIC automatic climate control
- Electric tilt/slide sunroof in glass design
- Seat heating in the front
- TEMPOMAT with SPEEDTRONIC cruise control

The options include:

- Audio 50 APS car radio with a navigation system and CD player
- Car phone or mobile phone
- Bi-xenon headlamps with headlamp cleaning
- Surround-sound system
- CD changer in the glove compartment
- COMAND APS with DVD navigation system and 6.5-inch colour display
- designo leather features and designo wooden trimming
- Burglary and theft warning system

- LINGUATRONIC for the car radio, navigation system and telephone
- Parameter-power steering
- PARKTRONIC
- Sidebags in the rear
- Electric seat and steering wheel adjustment with memory function
- Ski sack

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THERMOTRONIC comfort climate control

Sporty success factors – the top models of the AMG C-Class

- **Start came with the powerful AMG models of the Mercedes-Benz 190**
- **C 36 AMG of 1993 a milestone in the company's history**
- **C 43 AMG and C 55 AMG with powerful eight-cylinder engines**
- **Pacesetter C 32 equipped with V6 compressor engine in 2001**
- **C 30 CDI the first diesel model among sports cars**

For more than ten years now, AMG's top models in the C-Class have numbered among the key pillars in the success of Mercedes-AMG GmbH. Around the world, they are some of the most popular vehicles in the AMG product line-up. But AMG also turned the C-Class' predecessor, the Mercedes-Benz 190, into a powerful sport saloon beginning in 1983, enabling the company to achieve its international breakthrough.

A milestone was reached in 1993 with the introduction of the C 36 AMG, the first AMG vehicle to be developed and sold as a result of a cooperative agreement between Daimler-Benz and AMG. Its 3.6-litre, in-line six-cylinder engine produced 206 kW/280 hp. The huge success enjoyed by the C 36 AMG fuelled the creation of many other high-performance AMG cars. In 1997, the successor model, the C 43 AMG, with a newly developed eight-cylinder engine was introduced. And, for the first time, an estate model was launched. Starting in 1998, a small series of the C 55 AMG was created. Its 5.5-litre V8 engine delivered 255 kW/347 hp.

In 2001, the C 32 AMG with a V6 compressor engine was built on the basis of the new C-Class and introduced. With 260 kW/354 hp and 450 Nm of torque, it set the pace in its class. The C 30 CDI AMG was added to the line-up of AMG high-performance cars in 2002. This first diesel engine among sports cars generates 170 kW/231 hp and 540 Nm of torque.

Global sales for the C 36 AMG to the C 30 CDI AMG at a glance:

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C 36 AMG	5,400
C 43 AMG	3,600
C 32 AMG	8,100
C 30 CDI AMG	1,600

About 18,700 AMG high-performance cars in the Mercedes-Benz C-Class were sold between 1993 and 2003. The most important markets were the United States, Germany, Western Europe and Japan.

Mercedes-Benz C 55 AMG

<u>Engine</u>		
No. of cylinders/arrangement		8/V, 3 valves per cylinder
Displacement	cm ³	5439
Bore x stroke	mm	97.0 x 92.0
Rated power	kW/hp	270/367 at 5750 rpm
Rated load torque	Nm	510 at 4000/rpm
Maximum engine speed	1/min	6700
Compression ratio		11.0 : 1
Carburetion system		Microprocessor-controlled petrol injection, HFM
<u>Power transfer</u>		
Transmission		5-speed automatic with AMG SPEEDSHIFT
Ratios	Axle drive	3.06
	1st gear	3.59
	2nd gear	2.19
	3rd gear	1.41
	4th gear	1.00
	5th gear	0.83
	Reverse	3.15
<u>Chassis</u>		
Front axle		Three-link axle, McPherson, anti-dive system, coil springs, gas shock absorbers, stabilizer
Rear axle		Multi-link independent suspension, anti-squat and anti-dive systems
Braking system		Coil springs, gas shock absorbers, stabilizer Dual-circuit braking system with vacuum amplifier, Stepped master brake cylinder, internally ventilated and perforated front disc brakes, internally ventilated rear disc brakes, foot-operated rear parking brake, ABS, brake assistant, ESP®
Steering		Power rack-and-pinion steering, steering damper
Rims		front: 7.5 J x 18; back: 8.5 J x 18
Tyres		front: 225/40 R 18; back: 245/35 R 18
<u>Weight and dimensions</u>		
Wheelbase	mm	2715
Front/rear tread	mm	1507/1478
Overall length	mm	4611
Overall width	mm	1744
Overall height	mm	1412
Turning circle	m	10.76
Max. boot capacity*	l	455
Ready-to-drive weight according to the EU	kg	1635
Payload	kg	480
Gross vehicle weight rating	kg	2115
Tank capacity/fuel reserve	l	62/8.0
<u>Performance and fuel consumption</u>		
Acceleration 0-100 km/h	s	5.2
Top speed	km/h	250
Fuel consumption NEDC combined	l/100 km	11.9

Mercedes-Benz C 55 AMG estate

<u>Engine</u>		
No. of cylinders/arrangement		8/V, 3 valves per cylinder
Displacement	cm ³	5439
Bore x stroke	mm	97.0 x 92.0
Rated power	kW/hp	270/367 at 5750 rpm
Rated load torque	Nm	510 at 4000 rpm
Maximum engine speed	1/min	6700
Compression ratio		11.0 : 1
Carburetion system		Microprocessor-controlled petrol fuel injection, HFM
<u>Power transfer</u>		
Transmission		5-speed automatic with AMG SPEEDSHIFT
Ratios	Axle drive	3.06
	1st gear	3.59
	2nd gear	2.19
	3rd gear	1.41
	4th gear	1.00
	5th gear	0.83
	Reverse	3.15
<u>Chassis</u>		
Front axle		Three-link axle, McPherson, anti-dive system, coil springs, gas shock absorbers, stabilizer
Rear axle		Multi-link independent suspension, anti-squat and anti-dive systems
Braking system		Coil springs, gas shock absorbers, stabilizer Dual-circuit braking system with vacuum amplifier, Stepped master brake cylinder, internally ventilated and perforated front disc brakes, internally ventilated rear disc brakes, foot-operated rear parking brake, ABS, brake assistant, ESP®
Steering		Power rack-and-pinion steering, steering damper
Rims		front: 7.5 J x 18; rear: 8.5 J x 18
Tyres		front: 225/40 R 18; rear: 245/35 R 18
<u>Weight and dimensions</u>		
Wheelbase	mm	2715
Front/rear tread	mm	1507/1478
Overall length	mm	4626
Overall width	mm	1744
Overall height	mm	1455
Turning circle	m	10.76
Max. boot capacity*	l	470-1384
Ready-to-drive weight according to the EU	kg	1695
Payload	kg	505
Gross vehicle weight rating	kg	2200
Tank capacity/fuel reserve	l	62/8.0
<u>Performance and fuel consumption</u>		
Acceleration 0-100 km/h	s	5.4
Top speed	km/h	250
Fuel consumption NEDC combined	l/100 km	12.3

