Genuine BMW Spark Plugs

- **Multiple ground electrodes for reliable ignition**
- **Housing treated against corrosion**
- **Fivefold barrier against creeping current**
- **95% aluminium oxide as isolator for 100% reliability**
- **Excellent cold starting, idling and acceleration behaviour through semi-slide spark technology**
- **Exact heat range**

Function in detail

– In normal driving, the spark plug must withstand voltage discharges from 20 – 30 kV, 55 times per second; in "stop and go" traffic, it must withstand wear-inducing load changes and prevent high sooting during cold starts.
– Through the design of the electrodes and the isolator on Genuine BMW Spark Plugs, insulator deposits are conducted by the ignition spark over the insulator tip to the ground electrode. Thus deposits are carried away with every spark. This ensures reliable ignition of the fuel-air mixture under all conditions.

Benefits

Multiple ground electrodes for reliable ignition

Molecules from the electrode material are stripped with every ignition. This is called spark erosion. Over the long term, this leads to material erosion, the gap between the electrodes gets larger and in extreme cases, this leads to misfiring. With Genuine BMW Spark Plugs, multiple ground electrodes extend the operating life of the spark plug and ensure reliable ignition over long distances. In addition, multiple ground electrodes align the electrical field more precisely. The spark therefore strikes exactly on the opposite side, achieving a more complete ignition of the fuel-air mixture.

Housing treated against corrosion

The spark plug housing is made of special surface-treated steel. This ensures that corrosion and seizing of the thread is prevented even after a long operating life, so that the aluminium cylinder head remains undamaged.

Fivefold barrier against creeping current

Creeping current is unwanted voltage over the outer insulator, caused by moisture or contamination. This leads to misfiring with all the negative consequences associated with it. The insulator of a Genuine BMW Spark Plug has five ring-shaped barriers with a special profile. This prevents creeping currents, which means the spark is created where it is needed: between the electrodes.

95% aluminium oxide as isolator for 100% reliability

The insulator of a Genuine BMW Spark Plug is made of 95% aluminium oxide (AlO). This material is able to withstand difficult mechanical, thermal and chemical conditions.
Combustion pressures up to 40 Bar, vibrations, temperatures up to approx. +850 °C and a multitude of chemical additives in the fuel or oil create an aggressive environment that only high-grade insulator materials can cope with.

Excellent cold starting, idling and acceleration behaviour through semi-slide spark technology
The semi-slide spark technology of Genuine BMW Spark Plugs prevents deposits and thus malfunctions. This benefits cold starting; the engine runs "smoother" at idle and is responsive under acceleration.

Exact heat range
The heat range describes the spark plugs' capacity to dissipate combustion heat. On the one hand, a spark plug must reach its free burning temperature (approx. +400 °C) as quickly as possible for optimal cold starting behaviour, and on the other hand, the spark plug must not become too hot for motorway driving (max. +850 °C) to prevent uncontrolled ignition from the glowing parts of the spark plug. This is achieved, among other things, by the copper core in the centre electrode and by precise component tolerances. Complex measurements are required for this in order to ensure precise matching.

Quality assurance

Spark plugs are one of the vitally important components of a vehicle with a petrol engine. They determine optimal performance and reliable functioning of the engine. To guarantee this, Genuine BMW Spark Plugs are subject to the strictest quality requirements.

Cooperation with spark plug specialists
The spark plug technology of the Genuine BMW Spark Plugs is the result of a long co-operative development with spark plug specialists. The spectrum ranges from top to side electrodes to complex semi-slide spark technology. Currently the best available spark plug technology uses multiple ground electrodes and platinum centre electrode.

Decades of expertise
BMW builds on decades of successful, proven and tested know-how and makes no compromises. As a result, Genuine BMW Spark Plugs are optimally matched to each specific engine – both for series installation in all BMW precision engines and for after-market equipment when replacements are due.

Matched to computer controlled engine management systems
As Genuine BMW Spark Plugs are all optimally matched to the BMW engine's computer-controlled management systems, precise ignition is guaranteed. As a pioneer in digital motor electronics, BMW has contributed significantly to the development of suitable spark plugs.

Advantages of Genuine BMW Spark Plugs
– Multiple ground electrodes for reliable ignition
– Steel housing treated against corrosion
– Prevention of creeping currents
– Constant performance, even under extreme conditions
– Excellent cold starting, idling and acceleration through semi-slide spark technology
– Semi-slide spark technology with self-cleaning feature
– Optimal ignition reliability for protection of engine and catalytic converter
– Exact heat range, matched to specific BMW engine electronics
– Lower pollutant emission