

Spark Plugs

Overview, features and benefits

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BOSCH
Invented for life



- ▶ Original equipment supplier
- ▶ Optimum fuel efficiency and emissions performance
- ▶ Expertise since 1902 patent on a high voltage magneto and spark plug combination
- ▶ Improved engine life
- ▶ The right spark plug for almost every engine
- ▶ Bosch supplies and is the technical partner to the most popular and prestigious motorsport championship in the world

Bosch makes history in spark plug development:

Since 1902, Bosch has set the standard in spark plug technology with innovative, performance-proven products trusted by original equipment manufacturers worldwide.



From motorsport to series production:

Spark plug innovations specially developed for motorsport are incorporated into spark plug production for regular vehicles.

In fact they are often perfected furthermore before going into series production for workshops and dealerships.

Bosch Aftermarket Spark Plugs

		Standard	Super 4	Precious Metal Lines			Premium Motorsport Spark Plug**	
		Classic OE technology	Upgrade option for a standard spark plug (for older engines)	Improved ignition and longer life*	Exceptional performance and service life*	Improved ignition and longer life*	Exceptional performance and service life*	Motorsport Innovation
		Standard	Super 4	Iridium	Double Iridium	Platinum	Double Platinum	Double Platinum
Centre Electrode	Diameter	2 - 3mm	2.4mm	0.5 - 0.8mm	0.5 - 0.8mm	0.5 - 0.8mm	0.5 - 0.8mm	0.6mm
	Tip material	Chrome-nickel/ Nickel-yttrium	Chrome-nickel	Iridium	Iridium	Platinum	Platinum	Platinum
Ground Electrode	360° Continuous Weld	-	-	✓	✓	✓	✓	✓
	Tip Material	Chrome-nickel/ Nickel-yttrium	Chrome-nickel	Nickel-yttrium	Iridium-platinum alloy	Nickel-yttrium	Platinum	Platinum

*Compared to Bosch standard spark plug equivalent **Not available in the aftermarket

The Bosch spark plug range has the right spark plug for every vehicle – perfectly matched to the characteristics of the engine

Engineered for high performance and long life.

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Broad market coverage	The Bosch spark plug range offers the exact fitting spark plug in original equipment quality	Global market coverage of 95% means virtually the right spark plug solution for every engine, gasoline or CNG/LPG
Innovative alloys	Long service life (vehicle manufacturers' recommended replacement intervals are always met or exceeded) and improved ignition energy transmission	Bosch utilizes precious metal alloys that use extremely erosion-resistant materials, such as platinum, iridium, nickel, nickel yttrium and silver
Copper core	Improved consumption, acceleration and corrosion protection	Highly wear resistant electrodes due to nickel and precious metal alloys and highly thermal conductive copper core
Optimized electrode Geometry	Improved cold start ability even with low battery voltage	Less ignition voltage required due to a pointed, profiled ground electrode and grinded centre electrode which means less fuel condensation (no wetting)
Housing and threads	Protection of housing against corrosion and thread seizures especially in aluminium cylinder heads for quick and easy spark plug exchange	Nickel-plated spark plug housings and rolled threads as standard in all spark plugs
Innovative laser welding technique	Quick fitting	Factory-set electrode gap

360° Continuous wave laser welding technology Bosch patented process

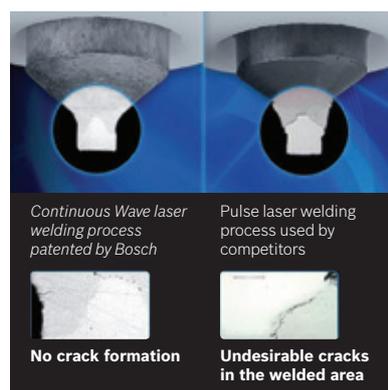


More than a century of experience in spark plugs, many more patents along this journey, one of them:

Bosch's exclusive 360° continuous wave laser welding method for fusing precious metal electrode to base.

With 360° continuous laser welding technique Bosch's spark plug centre electrode gets:

- ▶ A homogenous, continuous welded zone
- ▶ No crack formation
- ▶ Strongest bond of the precious metal pin to the centre electrode
- ▶ **Industry-best welding technology, ensuring highest retention of the precious metal electrode and thereby preventing potential engine damage**



Continuous Wave laser welding process patented by Bosch

No crack formation

Pulse laser welding process used by competitors

Undesirable cracks in the welded area

In the pulse laser welding process, there is a risk of the noble metal pin (center electrode) getting detached due to cracks caused by the high combustion chamber pressure. This may lead to engine damage. These cracks do not form in the patented CW laser welding process.

Bosch Spark Plugs - As diverse as the requirements

Advantages are gained from using specific alloys to suit each particular engine. It is easy to find the right product in the Bosch spark plug range as each one bears the electrode alloy in their name: Bosch Platinum, Bosch Double-Platinum, Bosch Iridium, Bosch Double-Iridium or trusted by original equipment manufacturers worldwide.



Super 4: Premium Line

High end spark plugs for older engines. Four thin ground electrodes and surface air gap technology



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- ▶ Bosch supplies and is the technical partner to the most popular and prestigious motorsport championship in the world
- ▶ OE supplier of gasoline injection systems to most of the main car manufacturers