

Glow Plugs

Overview, features and benefits

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Invented for life



- ▶ Original equipment product
- ▶ Optimum fuel efficiency
- ▶ Optimum emissions performance
- ▶ Fast pre-heating for quick cold engine starting
- ▶ Extend engine life
- ▶ Almost 100 years' experience
- ▶ Bosch glow plug solution for every diesel vehicle
- ▶ Bosch is a worldwide leader in terms of diesel development

Bosch glow plugs with the power of persuasion

The extensive glow plug range from Bosch offers the right solution for almost every diesel vehicle.

Glow plugs play a major role in modern diesel engines, since they work with such low compression that continued glow plug operation is necessary. Only in this way is smooth engine operation assured together with reduced fuel consumption and lower emissions. To ensure the above, Bosch offers a perfect system consisting of an electronic glow time control module in conjunction with Duraterm and DuraSpeed glow pin plugs, for almost all vehicles in Europe. Many car manufacturers rely on innovative glow plug systems from Bosch for their original equipment.

Glow plugs should be checked regularly – particularly:

- ▶ In case of increased smoke formation, especially after a cold start
- ▶ If the combustion noise is louder than usual when the engine is cold
- ▶ If the engine runs unevenly despite a warm engine
- ▶ If the power output drops or fuel consumption increases



No matter which type of diesel engine, Bosch supplies the right glow plug to give dependable cold-start performance.

Glow Plugs

Design and components

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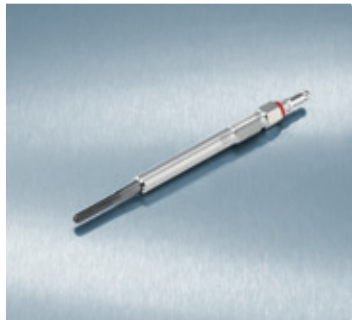
Duraterm

Metal, designed for older diesel engines

Start instead of waiting.

In comparison with previous standard glow plugs:

- ▶ Reliable starting behavior at low temperatures
- ▶ Environmentally friendly thanks to harmful emissions reduction by up to 60%
- ▶ Reduction of noise development (so-called "cold start knocking")
- ▶ Increased engine service life due to soot reduction
- ▶ Improved combustion and thus fuel saving
- ▶ 40% longer service life



Duraterm High Speed

2nd metal Duraterm generation, low-voltage characterized by faster starts in new diesel engines

Advantages of Duraterm® High Speed over Duraterm®

- ▶ Ready to start in 2 seconds
- ▶ Improved cold idling
- ▶ Lower emissions even at higher engine speeds
- ▶ Lower energy consumption
- ▶ Protects battery and alternator during cold start
- ▶ Improved combustion and thus fuel saving
- ▶ Designed for low voltage of 4.4 or 5.0 volts
- ▶ Doubling of the post-glow time to 360 seconds



DuraSpeed

Ceramic, designed for modern "cold engines"

- ▶ Emissions reduction through optimal adjustment of the preheating temperature to the respective operating status of the engine
- ▶ Lower emissions even at higher engine speeds
- ▶ Lowest emissions even with poorer fuel quality
- ▶ Best adaptation of the preheating time to engine requirements
- ▶ "Flexible design" protects against assembly damage
- ▶ Lower power consumption protects the battery and alternator

Specification table

Designation	Type	Voltage ¹⁾	Ready to start ²⁾	Start time at -28 °C	Post-glow time up to	Post-glow temperature	Average service life km	Warm-up time to 1000°C	For engines with compression ratio
Duraterm®	Metal	11.0 V	< 4 sec.	15 sec.	3 min.	1,000°C	80,000	< 6 sec.	ε ≥ 20:1
Duraterm® High Speed	Metal	4.4 V/ 5.0 V	< 2 sec.	< 10 sec.	6 min.	1,000°C	100,000	< 3 sec.	ε ≥ 18:1
DuraSpeed®	Ceramic	7.0 V	< 1 sec.	2 sec.	15 min.	1,200°C	300,000	< 2 sec.	ε ≤ 17:1

¹⁾ V: Bosch glow plugs are identified with the test voltage ²⁾ Preheating time for preheating temperature 850°C for a cold start at normal winter temperatures

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