



Valve Seat Inserts - 6000 series

Valve seat inserts of the 6000 series can use all conventional engine fuels.

They are suitable for use with petrol, diesel and LPG gaseous fuels. Whether the engine is naturally aspirated or turbocharged and whether it operates with carburation or fuel injection, the 6000 series of valve seat inserts will give an excellent life.

Valve seat materials for the modern engine must satisfy the exacting criteria:

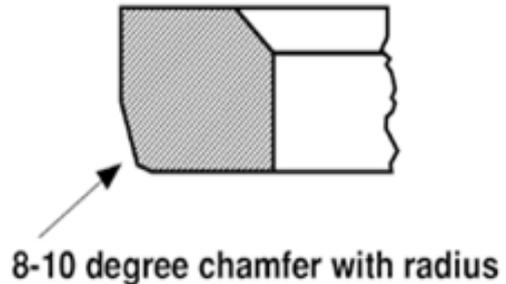
- Resistance to high temperature oxidation and corrosion
- Outstanding wear characteristics
- Retention of hardness when hot
- Excellent heat transfer
- Appropriate coefficient of expansion

The 6000 series of inserts use a wrought steel alloy in their manufacture. Their high chrome (13%) and molybdenum content ensures they meet all the factors above.

Specifically, their outstanding wear resistance is provided by the formation of extremely hard chrome and molybdenum surface carbides under operating (oxidising) conditions.

The 6000 series of valve seat inserts are fully machined on the outside diameters and end faces, having an average surface finish of 32 CLA. The bulk hardness of the material is such that easy machining is possible should the standard dimension need to be changed. A radius and chamfer is provided for easy insertion into the cylinder head recess (see diagram).

NEW



The interference fits to be used for the 6000 series valve seat inserts are as follows:

Valve Seat Insert Diameter	Cylinder Head Material	
	Cast iron	Aluminium
30 - 40mm 1.2 - 1.6"	.050 / .075mm .002 / .003"	.075 / .100mm .003 / .004"
40 - 50mm 1.6 - 2.0"	.065 / .090mm .0025 / .0035"	.090 / .115mm .0035 / .0045"
50 - 60mm 2.0 - 2.4"	.075 / .100mm .003 / .004"	.100 / .125mm .004 / .005"



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The following are the 3 most commonly asked questions:

1. Should I fit 6000 Series to the Inlet Side?

Yes. Use of the 6000 series inserts on the inlet side ensures that the engine receives all the benefits of the improved insert metallurgy. In addition, the risk of mixing grey iron and 6000 series inserts is avoided.

2. Why have the Press Fits Changed?

The new metallurgy of the 6000 series inserts involves different coefficient of expansion. This had to be accounted for when the press fit was being specified. The press fits associated with the older series of inserts should not be used.

3. Can Standard Valve Seat Cutters be used?

A standard cutter may reduce in diameter due to normal wear. The finished cut should be checked to ensure that it is of the correct diameter. In addition, a standard cutter that gives the correct press fit in cast iron will not give the correct press fit in aluminium. If the valve seat recess cannot be sized to suit the insert, then the insert must be sized to suit the recess by carefully machining the insert's outside diameter.