

Chemical Sealants

Most Permaseal head gaskets are manufactured with a soft fibrous, or graphite facing material. These facing materials are designed to conform to minor irregularities in the mating surfaces of the cylinder block and head. Also a common component to these gaskets is an impervious silicone coating, a key characteristic in the ability of the gaskets to “cold seal”.

The use of additional chemical sealants can affect the head gaskets ability to:

- Cold-seal, the ability of the gasket to seal coolant until the engine is first started.
- Cold-flow, the characteristics of the coating material to creep as the gasket is loaded (clamped), to seal small scratches and imperfections on the head and block surfaces.
- Reduce the shearing forces that are applied to the gasket surfaces by thermal expansion of the cylinder head and block.
- The added thickness of an applied sealant on a head gasket can cause uneven loading and or a loss of torque retention.

Some sealants may also react with the gaskets silicone coating, causing the gasket to deteriorate, and in some cases can cause the deterioration of the chemical sealer itself.

Please note, as per our Tec-Tips, included in each set, that ‘No sealants are necessary, or recommended, when using PERMASEAL head gaskets.’

The use of chemical sealant on moulded rubber gaskets such as rocker cover and oil pan gaskets is not recommended. When sealants are used in conjunction with rubber products, as load is applied, the sealant allows the gasket to extrude from its desired position, allowing for leakage and giving similar effects to over tightening.