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Solutions
Bearings Gears & Lubrication

Protect your bearing with the right seal
By Sophia Chua

One of the most common causes of bearing failure is the breakdown of seals, which can cause the contamination of particles into the bearings.

Trying to save money on seal options not only shortens the life of a bearing, but can increase a facility's downtime.

"Each bearing application is different and needs a unique solution," said Cory Shaw, general manager at QM Bearings.

"If manufacturers are only getting a couple of seal choices, they have to consider if they're really getting the best solution for their application, or just whatever the supplier has available."

According to Bruch Davies, national power transmission manager at BSC Motion Technology, factors to take into account when selecting bearing seals are operating temperature, bearing speed and the surrounding environment. Each seal material handles temperature and speed differently.

A standard nitrile rubber (the cheapest sealing material) is suitable for approximately 100°C and moderate speeds, while the more expensive fluoroelastomer seal is able to be used in higher temperature, but can damage at high speeds. The environment conditions can also affect the choice of seal, as factories more prone to moisture and dust may require multiple lip seals to prevent contamination.

Once the bearing application is considered, a range of seals can be used to suite various needs.

Triple lip seals are constructed so that three lips face ingress, preventing the entry of contaminants into the bearing. Spring loaded, double lip seals are suitable for heavily contaminated and moist environments. Non-contact Teflon seals can be used for high-speed applications.

Caption with cutaway view of V-Lock
Seals are like insurance, enhancing the life of the bearing by minimizing oil and water ingress that can cause damage.