

HNBR O Rings Material - Hydrogenated Nitrile Rubber

HNBR is manufactured by selectively hydrogenating NBR, a process that removes reactive double bonds from the polymer structure. This modification makes the molecular chain less susceptible to oxidation, thereby significantly improving its heat resistance compared to conventional NBR. Moreover, HNBR demonstrates superior wear performance in dynamic operating conditions.

Material Properties of HNBR in Technical Applications

For instance, HNBR exhibits resistance to hot water and maintains reliable performance across a broad temperature range from $-40\text{ }^{\circ}\text{C}$ to $140\text{ }^{\circ}\text{C}$. In sealing technology, HNBR—though considerably more costly—is a well-established material widely used in automotive engine timing belts. It is especially chosen for applications demanding higher temperatures and/or enhanced mechanical strength. The material is particularly valued for rod and piston seals, O-rings, radial shaft seals, boots, and diaphragms.

HNBR also offers extensive utility in the processing industries. In process engineering, for example, it serves as an excellent material for seals in butterfly valves. Additionally, HNBR provides an ideal solution for dairies, the beverage sector, and applications involving contact with fatty media.