

DSM 3.9.1 Natural Rubber

General:

Natural Rubber (NR) is an elastomer which is derived from the milky sap of the Hevea tree. Due to the sticky & unsaturated bonding nature of NR it did not offer any industrial significance until the invention of the vulcanization (Goodyear) a heat curing process. This systematic process converts the NR into a non-sticky hard polymeric material by adding sulphur, accelerators, antioxidants, and carbon. It is an irreversible chemical process (Thermoset).

Materials based on natural rubber (NR) share the same properties of high tensile and tear strength and outstanding resistance to fatigue combined with good abrasion resistance.

Benefits:

- Typical operating temperatures: -50°C to +100°C continuous, or +120°C intermittent.
- Suitable for use in hot and cold water.
- Suitable for use in glycol, dilute acids and alkalis.

Limitations:

- Avoid petroleum & oils.
- Limited resistance to heat, weathering and oils has greatly reduced the use of Natural Rubbers in favour of synthetic elastomers.

ASM (DEK) Applications:

- 'O' Rings

These values are representative. For critical applications, refer to data-sheet.

MECHANICAL PROPERTIES					
	HARDNESS Shore D	TENSILE STRENGTH:	YOUNGS MODULUS:	POISSONS RATIO:	DENSITY:
NR	45 - 85	0.56 MPa	0.001 GPa	0.36	45 Kg/m³

Alternatives:

Alternative polymers are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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