

# TD1049

## Material Data Sheet

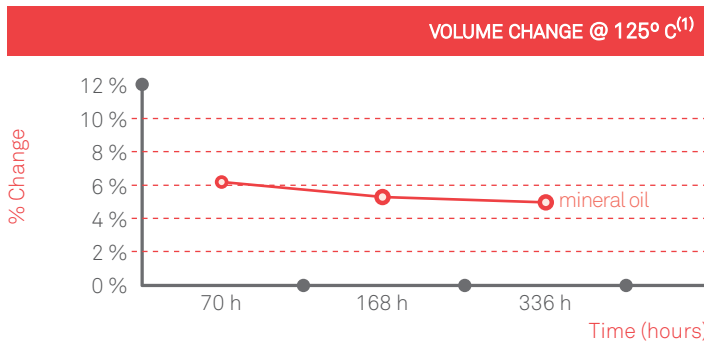
### Material Description & Properties

**TD 1049** sealing material is compounded with Nitrile (NBR) rubber. This product is recommended for most transformer oils at application temperatures.

- **TEMPERATURE RANGE** -30° C to 125° C  
(-22° F to 257° F)
- **STRESS RANGE** 5.5 to 20 MPa  
(800 to 2900 psi)
- **COMPRESSIVE STRENGTH** exceeds 70 MPa  
(10000 psi)

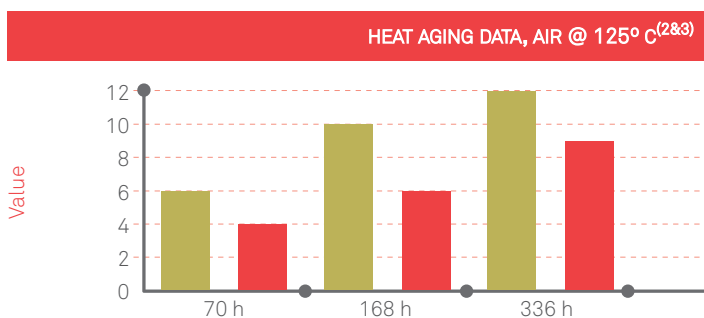
**TD 1049** conforms to all current regulations for hazardous substances.

- Asbestos Free
- Heavy Metals (Pb, Cd, Hg and Cr (VI)) Free
- Polycyclic Aromatic Hydrocarbons (PAH) Free



(\*) PROPERTIES **CHANGE** 504 h @ 125° C:  
 HARDNESS CHANGE (SHORE A) \_\_\_\_\_ -2  
 FLEXIBILITY \_\_\_\_\_ 4

(1) ASTM F146



(2) ASTM D2240

(3) ASTM F147

■ Hardness Change (Shore A)

■ Flexibility

DENSITY (kg /m <sup>3</sup> ) <sup>1</sup>	950
HARDNESS (SHORE A) <sup>2</sup>	75
TENSILE STRENGTH (MPa) <sup>3</sup>	3.0
ELONGATION (%) <sup>3</sup>	50

(1) ASTM D297

(2) ASTM D2240

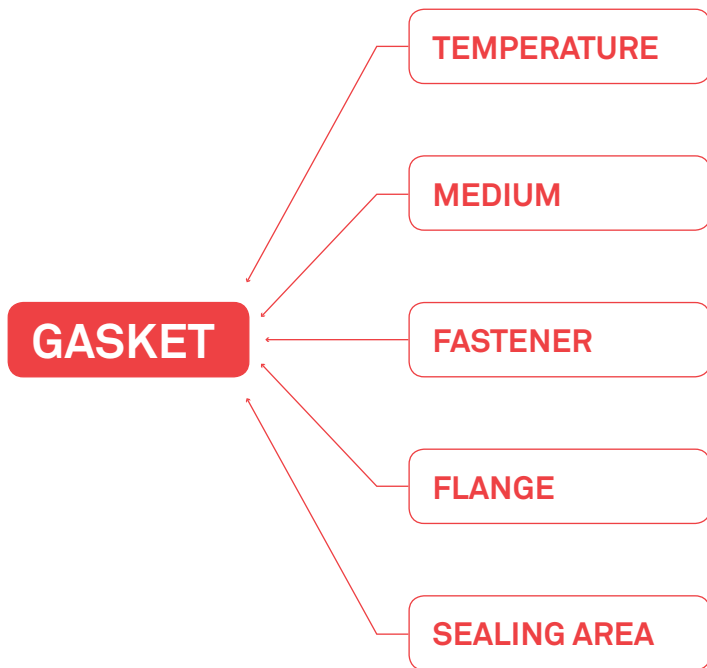
(3) ASTM D412, DiE

FLUID CONTACT	
MINERAL OIL	RECOMMENDED
NATURAL ESTER OIL	RECOMMENDED
SILICONE OIL	RECOMMENDED
SF6 GAS	SUITABLE

#### ACCORDING TO

**ASTM D3455**-Test Methods for Compatibility of Construction Materials with Electrical Insulating Oil of Petroleum origin.

**ASTM D5282**-Test Methods for Compatibility of Construction Materials with Silicone Fluid used for Electrical Insulation.



## GASKET DESIGN GUIDELINES

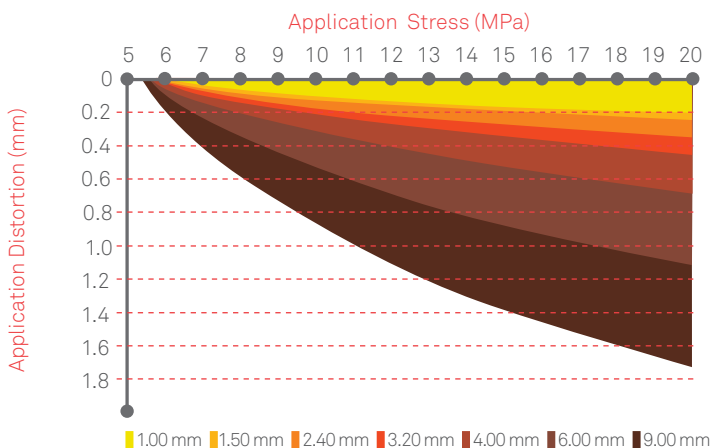
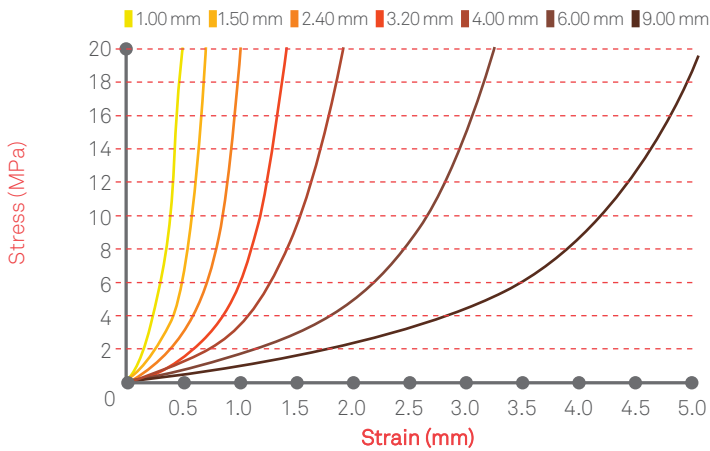
A Gasket material compatibility is defined by a variety of application factors shown in the adjacent diagram. The common perception that temperature and chemical resistance must be assured are only part of the equation.

Amorim Cork Composites' systems approach ensures joint integrity by considering the multiple variables that are involved.

Sealing Stress and System Distortion are key characteristics that influence each other. Sealing Stress is defined by the total fastener load for a given gasket contact area.

System Distortion is a function of the hardware manufacturing process and assembly procedure or loading.

The selection of the gasket thickness depends on these two factors.



### SEALING STRESS

A Load Deflection (LD) curve is a Stress (MPa) vs. Strain (mm) curve. It is the load required to compress a material at a defined thickness for a determined deflection.

It is very useful when making material selections to meet engineering requirements such as flange load or controlled compression applications.

If you require LD data at a different thickness, just ask us.

### SYSTEM DISTORTION

Conformability is the ability of a gasket material to conform to flange surface roughness and out-of-flatness.

At a given sealing stress a corresponding maximum allowable flange distortion assures that a "positive seal" is guaranteed for a defined material thickness.

By intersecting the hardware distortion and the respective sealing stress, a suggested material thickness is selected. However it is always recommended to validate the material thickness in your system due to unexpected flange distortion behavior.

Check out the "Q-Tool" sealing software on our website for a quick and comprehensive calculation of your joint system, or contact us for additional help to define our best material solution for your sealing requirement.



The data provided in this Material Data Sheet represents typical values. This information is not intended to be used as a purchasing specification and does not imply suitability for use in a specific application. Failure to select the proper sealing product may result in either product damage or personal injury. Please contact Amorim Cork Composites regarding recommendations for specific applications. Amorim Cork Composites expressly disclaims all warranties, including any implied warranties or merchantability or of fitness for a particular purpose. Amorim Cork Composites is not liable for any indirect, special, incidental, consequential, or punitive damages as a result of using the information listed in this material data sheet, any of its brochures, its products or any future use or re-use of them by any person or entity. **For contractual purposes, please request our Product Specifications Sheet (PDA).**

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