

HY509

HY509 is a traditional glass/moly filled PTFE material; addition of moly improves lubrication in dry conditions. HY509 is BAM (Bundesanstalt für Materialforschung und –prüfung) certified for use in oxygen gas compression.

Physical Properties

| Property | Method | Value |
|---|------------|-------|
| COTE - Radial x 10 ⁻⁶ /C (20-200 °C) | ASTM D696 | 73.9 |
| COTE - Axial x 10 ⁻⁶ /C (20-200 °C) | ASTM D696 | 105.1 |
| Density (g/cm ³) | ASTM D792 | 2.26 |
| Shore D Hardness | ASTM D2240 | 58 |
| Tensile strength at break (MPa) | ASTM D638 | 26 |
| Elongation at break (%) | ASTM D638 | 210 |

Operating range

| Max. Gas Temperature (°C) | | Max. Pressure (bar) | | | |
|---------------------------|--------|---------------------|------|---------------------|------|
| Discharge | Design | Packing Discharge | | Cylinder Ring Diff. | |
| | | Non-Lube | Lube | Non-Lube | Lube |
| 200 | 150 | 300 (#) | 450 | # | 250 |

Operating limits in oxygen service

| Max. Temperature (°C) | Max. Oxygen Pressure (bar) | Compression Ratio |
|-----------------------|----------------------------|-------------------|
| 175 | 100 | 100 |

Tested according to DIN EN 1797 and ISO 21010

Air

Industrial Gases

Natural Gas

Refinery

Olefins

Alcohols

Chemicals

Refrigeration

All values are approximate and subject to change without notification.

The maximum material design temperature is calculated by considering suction and discharge conditions, machine speed, cooling and loading. Typically: $T_{design} = T_{suction} + 2/3(T_{discharge} - T_{suction})$. Additional operating conditions need to be considered when making material selections. The data presented are guidelines only; consult HOERBIGER to ensure the correct material is specified.

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