

HY52

HY52 works well in most air compressor applications and is known for its continuous outstanding performance in non-lubricated applications. The combination of toughness, resistance to extrusion, high heat transfer coefficient, and flexibility to stretch over a piston, makes HY52 a versatile material. We recommend this grade to our customers for non-lubricated and lubricated applications where extrusion resistance is needed. HY52 is WHA certified for use in oxygen compression.

Physical Properties

Property	Method	Value
COTE - Radial x 10 ⁻⁶ /C (20-200 °C)	ASTM D696	70.9
COTE - Axial x 10 ⁻⁶ /C (20-200 °C)	ASTM D696	79.5
Density (g/cm ³)	ASTM D792	3.85
Shore D Hardness	ASTM D2240	62.5
Tensile strength at break (MPa)	ASTM D638	17.5
Elongation at break (%)	ASTM D638	160

Operating range

Max. Gas Temperature (°C)		Max. Pressure (bar)			
Discharge	Design	Packing Discharge		Cylinder Ring Diff.	
		Non-Lube	Lube	Non-Lube	Lube
200	165	100	175	50	-

Operating limits in oxygen service

Max. Temperature (°C)	Max. Oxygen Pressure (bar)	Compression Ratio
175	100	≤3

Tested according to ASTM G72, ASTM G114 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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