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A QUICK GUIDE TO

HIGH-PRESSURE GASKET MATERIALS

OVERVIEW

High-pressure flange joints require gasket materials capable of maintaining seal integrity under high bolt loads, internal pressure and thermal cycling.

Pressure resistance for high-pressure gaskets is typically 1,200psi and above.

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MATERIAL PROPERTIES

MATERIAL	KEY PROPERTIES
Compressed Fibre	Good compressibility and recovery, stable under moderate-to-high bolt loads, reliable flange conformity
Flexible Graphite	Excellent thermal stability, strong chemical resistance, maintains seal under high bolt loads
Expanded PTFE	Outstanding chemical compatibility, low friction, suitable for aggressive media
Spiral Wound	High structural strength, excellent blowout resistance, suitable for extreme pressure and temperature
Metal Jacketed	Metal envelope provides strength while soft filler aids sealing
Kammprofile	High load-bearing capacity, excellent recovery, superior performance in high-pressure flange joints

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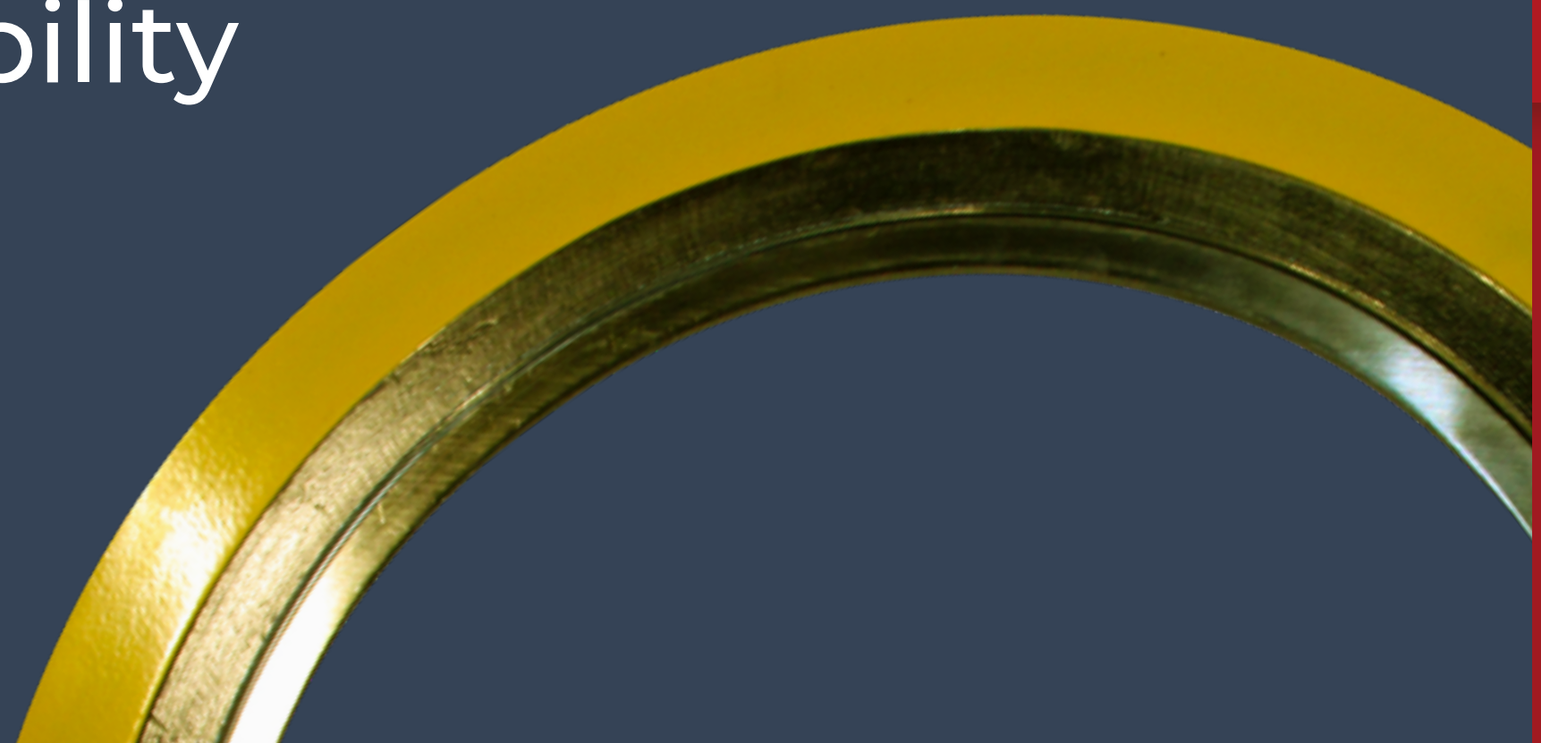
SEALING MECHANICS

In high-pressure systems, gasket performance depends on:

- Compressibility to conform to flange surface irregularities
- Recovery to maintain sealing stress during pressure fluctuations
- Blowout resistance under internal pressure
- Resistance to creep
- Chemical & temperature compatibility



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MATERIAL INTEGRITY

High-pressure applications demand consistent material quality and verified specifications.

Low-grade or incorrectly formulated gasket materials can exhibit:

- Reduced mechanical strength
- Excessive compression set
- Poor blowout resistance
- Accelerated degradation

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TYPICAL APPLICATIONS

MATERIAL	APPLICATIONS
Compressed Fibre	Pumps, compressors, hydraulic systems, industrial pipework
Flexible Graphite	Steam systems, heat exchangers, power generation
Expanded PTFE	Chemical processing plants, solvents
Spiral Wound	Petrochemical pipelines, refineries, pressure vessels
Metal Jacketed	Heat exchangers, boilers, high-pressure vessels
Kammprofile	Petrochemical processing, critical high-pressure flanges

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NEED ADVICE ABOUT HIGH-PRESSURE SEALING SOLUTIONS?

TALK TO OUR TEAM

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