

Asbestos Gaskets — Comprehensive Properties

1) Compressed Asbestos Fibre (CAF) — rubber-bonded jointing sheets (classic gasket material)

Properties (typical)

Property	Typical / notes
Composition	Chrysotile (white) asbestos fibres + mineral fillers + rubber binder (NBR/SBR or similar) — calendered / pressed.
Appearance / colour	Grey / black (graphited variants), smooth pressed surface; sometimes anti-stick coated.
Density	~1.5 - 2.2 g/cm ³ (varies by formulation & filler).
Continuous service temperature	Typical working range up to ~300 - 440 ° C depending on grade; suppliers list different max temps by grade — check datasheet.
Pressure capability	Suitable for low-to-moderate flange pressures; some high-grade CAF rated for higher bolt loads (grade & reinforcement dependent).
Chemical resistance	Good to steam, water, many acids & alkalis; oil/fuel resistance depends on binder and specific grade (oil-resistant CAF variants available).
Mechanical	Good conformability and sealing under moderate bolt loads; compression & recovery depend on binder / compaction.
Standards / specs	Historically covered by standards such as IS 2712 (India) and older national specs (DIN/BS forms). Use the grade & test values from the standard when available.
Hazards	Asbestos fibers are carcinogenic if inhaled. Cutting/removal must follow asbestos safety regulations. Do not cut or machine CAF gaskets in uncontrolled workshop conditions.

2) Reinforced CAF (metal-reinforced / wire-mesh asbestos jointing)

Properties (typical)

Property	Typical / notes
Composition	CAF matrix with embedded steel/SS wire gauze or perforated metal foil (tanged or laminated).
Temperature / pressure	Enhanced mechanical & pressure capability vs plain CAF; used where thermal shock or cyclic loading occurs.
Mechanical	Improved blow-out resistance, lower extrusion, better distribution of bolt load.
Use & hazards	Still asbestos-containing — same regulatory & handling restrictions; reinforcement does not remove hazard.

3) Asbestos Millboard / Insulating Boards (dense sheet / board)

Properties (typical)

Property	Typical / notes
Composition	Dense asbestos fibre assembly (millboard), sometimes impregnated or coated for rigidity.
Temperature capability	Excellent thermal insulation and very high-temperature resistance — used as thermal barriers and insulating gaskets.
Mechanical	Rigid relative to CAF; used where stiffness & thermal insulation required.
Hazards	High hazard if abraded or cut. Follow strict asbestos procedures.

4) Asbestos Rope / Yarn / Woven Gasket Materials

Properties (typical)

Property	Typical / notes
Composition	Braided or woven asbestos fibres, sometimes with binder/graphite impregnation.
Temperature capability	Very high T resistance — used for packing & rope seals where compressible high-T gasket needed.
Hazards	Rope is friable and releases fibers readily when handled — high exposure risk. Strict controls required.

5) Asbestos Beater Paper / Asbestos Felt Sheets (thin gasket papers)

Properties (typical)

Property	Typical / notes
Composition	Thin asbestos paper/felt, often with binder (used for gasket washers & low-to-medium pressure seals).
Temperature / chemical	Moderate to high T depending on binder; historically used for engine & pump cover gaskets.
Hazards	Thin paper is easily disturbed and hazardous when cut or abraded.