Beater Sheet / Beater Paper — Technical Data Sheet / Datasheet / TDS

1) Asbestos Beater Sheet / Paper (historical product — high risk)

Safety note: Asbestos-containing beater paper is hazardous if fibers are released. Many countries restrict or ban new use; if remaining in service treat per regulation and use licensed contractors for removal. (See supplier/regulatory sources for details.)

A. Properties (typical)

Property	Typical / notes
Composition	Chrysotile asbestos fibres + mineral fillers + synthetic latex / rubber binder (vulcanized in some grades).
Appearance / colour	Grey / dark grey; smooth calendered face (may be coated).
Density (approx.)	~1.6 – 2.0 g/cm³ (grade & filler dependent).
Continuous service temperature	Up to ~200° C for many vulcanized beater types (some specialized grades rated higher; follow supplier TDS).
Chemical / oil behaviour	Good resistance to many lubricants and oils (oil-resistant variants designed for engine/gearbox gaskets).
Mechanical	Good compressibility & sealing at moderate flange loads; can be vulcanized for improved strength.
Typical uses	Historically: engine gaskets (oil pan, gearbox), automotive, pumps, small flange seals (but now largely replaced).

2) Non-Asbestos / Aramid-Cellulose Beater Paper (most common modern replacement)

A. Properties (typical)

Property	Typical / notes
Composition	Blend of cellulose + aramid (Kevlar / other synthetic fibres) ± mineral fillers; NBR or other elastomer binder; often vulcanized for strength.
Appearance / colour	Grey / black / brown depending on filler and binder.
Density (approx.)	~1.1 – 1.6 g/cm³ (varies by formulation).
Continuous service temperature	Typically -40° C to +150° C; some high-temp formulations to ~200° C (check grade).
Oil & fuel resistance	Good for oil-resistant grades; binder choice determines aromatic/fuel resistance.
Mechanical	Good compressibility, rebound and cuttability; vulcanized grades have improved tensile strength and dimensional stability.
Typical uses	Engine oil pan gaskets, valve cover gaskets, gearbox covers, pumps, refrigeration compressors, general low-to-medium temperature flange gasketing.

3) Vulcanized Beater Paper (vulcanized / cured beater sheet)

A. Properties (typical)

Property	Typical / notes
Composition / process	Beater paper sheet after vulcanization (heat + pressure curing) to cross-link binder (commonly NBR), improving mechanical integrity and oil resistance.
Appearance	Smooth, dense face; often dark grey/black.
Density / hardness	Denser and tougher than non-vulcanized beater paper; better tensile strength and cut-edge stability.
Temperature / chemical	Similar temperature range to non-asbestos beater but with improved oil and solvent resistance due to cured binder.
Typical uses	Oil pan gaskets, engine & gearbox sealing, where enhanced durability and oil resistance are required.

4) Soft Paper Beater Gasket Sheet (cellulose-rich, low-cost soft gasket)

A. Properties (typical)

Property	Typical / notes
Composition	Finely processed cellulose paper ± fillers; low binder content (soft, compressible).
Appearance	Thin, smooth paper surface; typically light grey or brown.
Density	Lower than vulcanized or aramid blends.
Temperature / chemical	Limited temperature capability (typically ≤ 120–150° C) and lower chemical resistance — intended for low pressure / low-temp sealing.
Mechanical	Very compressible, low sealing loads; not suitable for heavy oils or aggressive chemicals unless treated/coated.
Typical uses	Low-pressure covers, instrument housings, HVAC dampers, where cost and compressibility are priorities.

5) Metal-backed / Composite Beater Sheets (beater paper laminated to metal facings)

A. Properties (typical)

Property	Typical / notes
Composition	Beater paper (asbestos or non-asbestos) laminated to thin metal sheets (tinplate, stainless steel) or perforated metal for reinforcement.
Advantages	Improved compressive load distribution, handling, and sometimes increased temperature/pressure capability; commonly used as composite gasket core for engine cylinder heads and pan gaskets.
Typical uses	Engine composite gaskets, reinforced pump housings, exhaust flange composites (where metal backing required).