



Bolt Loads in Gasket Joints Formulas

Calculators!

Examples!

Conversions!

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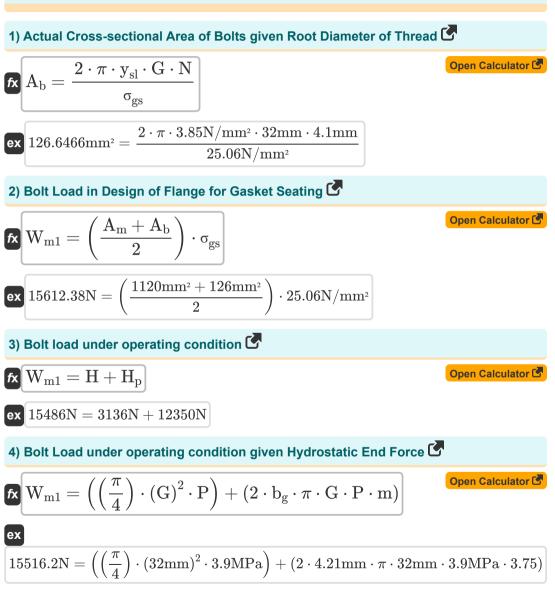
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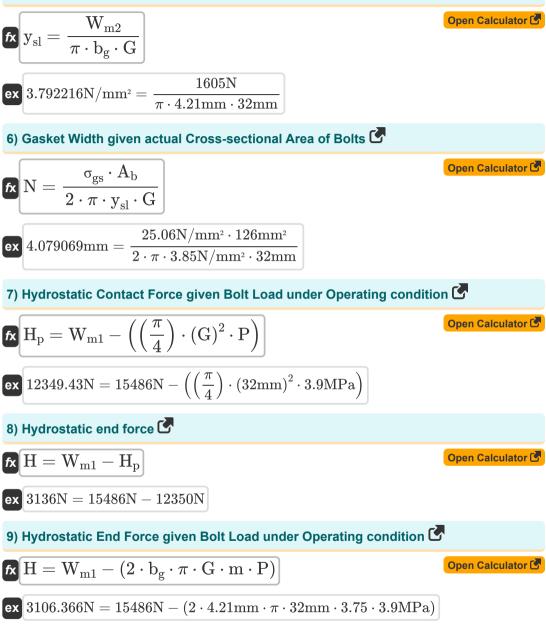
List of 16 Bolt Loads in Gasket Joints Formulas

Bolt Loads in Gasket Joints 🕑









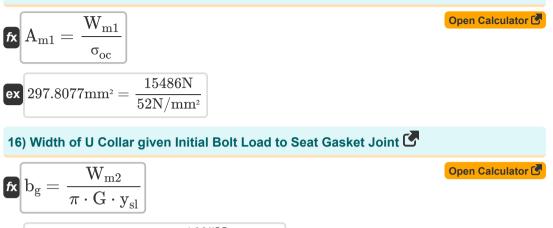






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15) Total cross-sectional area of bolt at root of thread 🖸



| ex | $4.146813 \mathrm{mm} =$ | 1605N |
|----|--------------------------|---|
| | | $\pi \cdot 32 \mathrm{mm} \cdot 3.85 \mathrm{N/mm^2}$ |





Variables Used

- Ab Actual Bolt Area (Square Millimeter)
- Am Greater Cross-section Area of Bolts (Square Millimeter)
- Am1 Bolt Cross-Sectional Area at Root of Thread (Square Millimeter)
- **b**_q Width of u-collar in Gasket (Millimeter)
- F_b Bolt Load in Gasket Joint (Newton)
- **f**_S Factor of Safety for Bolt Packing
- G Gasket Diameter (Millimeter)
- H Hydrostatic End Force in Gasket Seal (Newton)
- H_p Total Joint Surface Compression Load (Newton)
- Gasket Factor
- N Gasket Width (Millimeter)
- P Pressure at Outer Diameter of Gasket (Megapascal)
- Pt Test Pressure in Bolted Gasket Joint (Megapascal)
- Wm1 Bolt Load Under Operating Condition for Gasket (Newton)
- W_{m2} Initial Bolt Load to Seat the Gasket Joint (Newton)
- **y_{sl}** Gasket Unit Seating Load (Newton per Square Millimeter)
- σ_{qs} Stress Required for Gasket Seating (Newton per Square Millimeter)
- σ_{oc} Stress Required for Operating Condition for Gasket (Newton per Square Millimeter)





Constants, Functions, Measurements used

- Constant: pi, 3.14159265358979323846264338327950288 Archimedes' constant
- Measurement: Length in Millimeter (mm) Length Unit Conversion
- Measurement: Area in Square Millimeter (mm²) Area Unit Conversion
- Measurement: Pressure in Megapascal (MPa) Pressure Unit Conversion
- Measurement: Force in Newton (N) Force Unit Conversion
- Measurement: Stress in Newton per Square Millimeter (N/mm²) Stress Unit Conversion



Check other formula lists

- Bolt Loads in Gasket Joints
 Formulas
- Elastic Packing Formulas
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