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AMORIM

Glossary of Terms

Adhesion: The sticking of the gasket material to either or both flanges of a mechanical assembly.

Alloy-steel: A type of steel that contains additional elements to improve the properties of a fastener.

Aluminum: A silvery, white metal that is soft, light, and is electrically and thermally conductive.

Antifreeze: Antifreeze/Coolant is a combination of chemicals designed to be mixed with water for use in engine cooling systems. Antifreeze most commonly use glycols (either ethylene or propylene) to reduce the freezing point of water.
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Unit Converter
Convert between various types of engineering units

Tell me more
Menu explanation - Convert between units if necessary
Menu explanation

Calculator
Use the incorporated calculator for quick calculations

Tell me more

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Menu explanation - Make calculations using the incorporated calculator
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Menu explanation - Application Menu

Sealing Application Menu

TechSeal
Gaskets & Seals - Soft Gasket Technology
- Heavy Duty & Automotive
- Small Gasoline Engines
- Gas Applications (Regulators & Meters)
- Industrial & Others...

T & D
Power Industry - Transmission & Distribution Equipment
- Transformers/Transformers & Others...
- Bushings & Accessories

Next
Select your application choosing between the type of equipment to be sealed >> Next
Step 1 - Application Environment

Select the required chemical resistance and **minimum** and **maximum** application service temperature.
Step 1 - Application Environment

Use the **radio buttons** and **drop down combo boxes** to make the required selection >> Next
Step 2 - Joint Details

Insert the **number of fasteners** and **sealing area**
Step 2 - Joint Details

Use the dropdown combo box to select the available thickness or the radio button for a simple sealing area calculation - Confirm the Joint output >> Next
Step 3 - Fastener and Loading Details

Define fastener thread, grade and friction factor determine loading through torque or percentage of fastener yield.
Step 3 - Fastener and Loading Details

Fastener threads can be consulted for metric and un threads by selecting the thread in the list box.
Step 3 - Fastener and Loading Details

Fastener grades can be consulted for ISO, SAE and ASTM grades by selecting the required grade in the list box.
Detailed fastener grade mechanical properties available

**Fastener Grades**

<table>
<thead>
<tr>
<th>Fastener Material</th>
<th>Mechanical Properties Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>ISO 3306 Corrosion-resistant stainless steel fasteners.</td>
</tr>
<tr>
<td>Standard Properties</td>
<td>The head shall be clearly marked with the steel grade and property class A2-70.</td>
</tr>
</tbody>
</table>

- **A2-70**
  - Elastic Modulus - E: 190000 N/mm²
  - Shear Modulus - G: 74000 N/mm²
  - Minimum Shear Stress: 385 N/mm²
  - Maximum Shear Stress: 500 N/mm²
  - Density: 7910 Kg/m³
  - Poisson Ratio: 0.305
  - Coefficient of Thermal Expansion: 16.3 μm/m°C

- **Additional Property Information**

**Quick Guide**
Select fastener thread using the radio buttons (choose between metric and un thread) and use the respective dropdown combo box for dimension selection.
Select fastener grade using the radio buttons (choose between ISO, SAE or ASTM grades) and use the respective dropdown combo box for the specific grade selection.
Select the friction factor in function of the description from the dropdown combo box.
Insert loading, use the radio buttons to choose between torque or yield loading, if torque is not known or uncertain, insert a percentage of the fastener capacity using the yield function results will be portrayed alongside in terms of fastener and load output >> Next
Selected materials (Step 1 Results) that comply to steps 1, 2 and 3 inputs are presented showing the minimum and maximum stress for each material as well as the application stress you can advance or go back to correct or adjust inputs. >> Continue Material Analysis

Quick Guide
Material details (step 2 results) in terms of **compression**, **compression rate** and **maximum joint distortion** for each selected material narrows down the selection. You can view the report or go back to correct or adjust inputs >> Report

<table>
<thead>
<tr>
<th>Material</th>
<th>Compression (mm)</th>
<th>Compression Ratio (%)</th>
<th>Maximum Distortion (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD1120</td>
<td>2.01</td>
<td>50.2</td>
<td>1.00</td>
</tr>
<tr>
<td>TD1049</td>
<td>1.64</td>
<td>41.0</td>
<td>0.41</td>
</tr>
</tbody>
</table>
A complete report is generated for each material with the inputs and calculations.
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