AxiPRO v3.6

AxiPRO performs a finite element analysis of flanged joints and other axisymmetric geometries. 3D, nonlinear finite element models of gaskets, bolts and flanges are used to calculate stresses, displacements and leakage in and around the flanged joint. Code evaluations of the joint are performed in accordance with ASME Section VIII-1 Appendix 2, ASME BFJ and EN13445 Annex G.

GASKET FACTORS & PARAMETERS

AxiPRO contains a database of gasket factors and parameters from ASME Appendix 2, EN-13445, and research performed at PRG's testing facilities. In addition, a user can manually modify any of the parameters if default values are not already contained in AxiPRO's database.

Non-linear gasket properties from EN-13445 Annex G and PRG tests are used in the FEA models to better characterize the gasket behavior under load. You may review the gasket parameters used in AxiPRO by simply selecting the various gaskets and reviewing the parameters that appear.

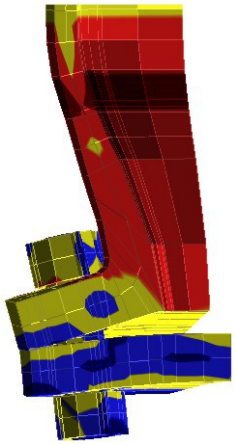
FLANGE LEAKAGE PREDICTIONS

Leakage prediction is provided on two levels. First, leakage prediction in accordance with ASME BFJ is provided. However, ASME BFJ is limited to Helium leakage prediction. To supplement this, PRG has developed correlations to allow leakage prediction for other fl uids and gases. The user may either choose from a provided list of gases and fl uids, or enter their own physical properties.

Dimension of standard fl anges in accordance with ASME B16.5, ASME B16.47, API 605, and DIN 2600 are provided. All the user needs to do is specify the nominal fl ange size. However, if a custom fl ange is required the user can specify their own unique dimensions.

PROCEDURES TO DETERMINE...

- Allowable external forces, moments or torsional loads on a flanged joint
- Fugitive emissions from a particular flanged joint to satisfy OSHA, DOT or the US Code of Federal Regulations requirements
- The stress in the flange, bolt, hub and attached pipe, vessel or head. Calculations include the effect of the bolt holes, nonlineargasket properties and gapped surfaces.
- Comparisons between European and American fl ange rules. EN 13445 Annex G, ASME BFJ, and ASME Appendix 2 fl ange rules are printed alongside FEA results.
- Stresses and rotations in DIN, API, ASME B16.5, B16.47 or user-defined flanges
- Stresses in large heat exchanger models. Any number of bolts can be included in the FEA model.
- Liquid leak rates through flanged joints.
- Effects of blind, matching, rigid or user-specifi ed fl ange connections. The user can modify any automatic program generated geometry.



AxiPRO is only available as a part of FEPipe v10.1. It is not sold as an independent program. Please contact the PRG sales office for pricing.

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