

EN 1591/EN 13445 Annex G

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New module now available.

The Alternative Method has the following advantages:

- Gives in many cases a more economical solution (9 of 10 cases investigated in the envelope project gave a more economical solution)

- Ensures a leak free joint/leak tightness

- Allows the designer to analyse existing flanges to determine cause of un-tightness

- Includes effect of thermal expansion effects due to differences in bolt temperature and/or materials

- Determines the rotation/deformation of joint in all conditions

- Includes effect of external loading

- Determines minimum required bolt torque based selected bolting up method

- The flange can be attached to a conical shell or a domed end

- Considers the non-linear elastic behaviour of the gasket

- Considers the influence of the number of mounting cycles on the gasket
- The range of the allowable bolt forces for installation can be determined
- Determines the fluctuation of bolt force based on the bolting up method(e.g. with a wrench, impact wrench, torque controlled wrench with or without measuring equipment).

Even if the method itself is quite complex, the input and the use by the VVD software is quite simple. Below is a sample output showing the input section and the results summary section. However, all intermediate calculation results are also available, the total number of pages then becomes 16 instead of the 4 pages shown in the sample calculation below.

For more information link to: [Alternative Rules for Flange Design](#)