

What Is An Appendix-Y Flange?

There are not a lot of examples of Appendix-Y calculations available. What are Appendix-Y flanges? They are found in Appendix-Y of ASME VIII-1, hence the endearing title “Appendix-Y.”

- Appendix Y is a custom flange. Unlike ASME B16.5 and ASME B16.47, which fully describe materials, dimensions and pressure ratings for flanges, Appendix-Y allows the designer is able to manipulate various criteria.
- Appendix Y is used for a very specific type of flange joint. Each flange must be flat-faced, parallel to the mating flange, and there must be metal-to-metal contact outside of the bolt circle. This precludes full-faced gaskets and any flange design where the faces don't make contact outside the bolt circle. However, it does allow for flanges with a metal spacer, where the spacer contacts both flange faces, which themselves don't touch.
- This type of flange makes use of a self-energizing gasket that is roughly in line with the wall of the attached pipe or vessel. The gasket seating loads are neglected, and the hydrostatic end loads dominate the calculations.
- Typically, the flanges will be thinner than an Appendix-2 flange, but the bolting requirements can be surprisingly high.
- These flanges are often used in a low-pressure application. A similar flange-style is used by the drinking water industry, but they are not covered by ASME VIII-1.

