

CABLE vs STRUTS IN SEISMIC RESTRAINT APPLICATIONS

CAUTION

Caution must be exercised when restraining overhead piping, ductwork, or equipment with struts or rigid braces as an alternate to cable. Although they look similar, the two restraint methods behave very differently in practice.

Component sizes, restraint spacing, and support hardware that may have been specified for cable restrained systems can be grossly undersized if struts are substituted.

The reason for this is that when the seismic force pushes the restrained component toward a strut, the strut must absorb the load in compression. This puts additional, often significant, tensile load into the hanger rod. This is unavoidable!

This does not occur in cable-restrained systems since cables cannot be loaded in compression. In cable-restrained systems, hanger rods are not subjected to these added tensile loads. This is also unavoidable!

Struts should never be used to restrain a system that has had its support hanger rods and anchorage sized strictly on weight.

More detailed information on this subject is available in the Duct, Pipe, Conduit and Suspended Equipment sections of this manual.

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