ANALYSIS OF BASE ANCHORED HARD CONNECTED PIPE RISER (DISTRIBUTED HYD LOAD CARRIED UP RISER)

SUITABLE FOR EXPANSIVE OR CONTRACTIVE SYSTEMS

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**Project:** BASE ANCHORED HARD CONNECTED (TYPE 7)

**Riser:** TYPICAL RISER

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**Note:** Supports are assumed to be at floor level, if at ceiling level, identify as being on floor above

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**Expansion Coef.** 7.0E-05 in/ft/degF

**Installed Temp.** 70

**Oper Temp.** 91

**Anchor Elevation** 0 (If Anchored System)

**Anchor Type** FX (Fixed-FX or Floating FL)

**Static Head** 0 (Ft at top of pipe)

**Water Supported** Y (Y or N) Is water column weight supported by Riser?

**Liq or Gas Piping** L (L or G) Is the pipe filled with water or gas?

**Steam Pressure** 0 (Enter a value only if steam pressure is present (psi))

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**Floor Support Ht Elev Size Pipe Local Local Init Support Hyd Init Oper Sprg Oper Init Tens (Ref) Loc Res Ft Ft in Wt Wt From Pipe Pipe Burst + Tens + is Down + Lb Lb Lb Lb Lb Lb Lb Lb Lb Lb Lb Lb PSI PSI
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**Critical Buckling Load for piping** -23254 lb

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**SAMPLE 8 STORY RISER WITH ANCHOR AT BASE AND NON-VERTICALLY RESTRAINED ISOLATORS**

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**NOTE THAT THERE IS NO LARGE CONCENTRATED FORCE AT THE ANCHOR ELEVATION IN SERVICE, BUT THERE IS A LARGE TENSILE FORCE DURING INSTALLATION. IN SERVICE, HYDRAULIC LOADS ARE CARRIED UP THE RISER TO MULTIPLE ISOLATORS AT THE EXPENSE OF HIGHER TENSILE LOADS AND STRESSES IN THE PIPE ITSELF.