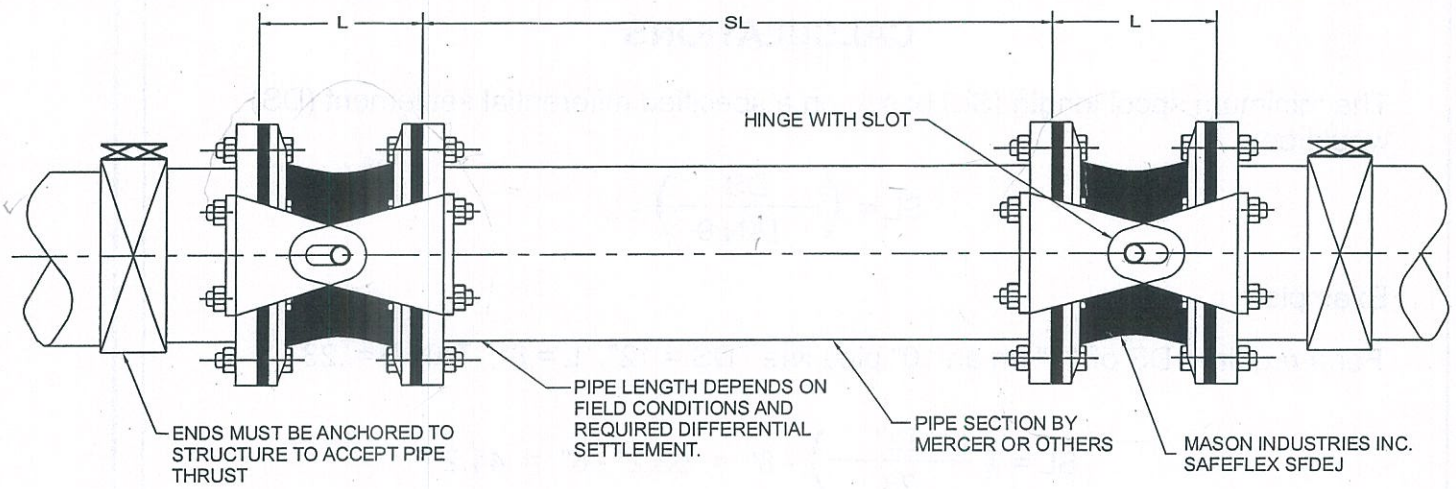
MASON INDUSTRIES, Inc.
MERCER RUBBER, Co.
350 Rabro Drive, Hauppauge, NY 11788
Tel. : 631/348-0282 Fax : 631/348-0279
Info@Mason-Ind.com

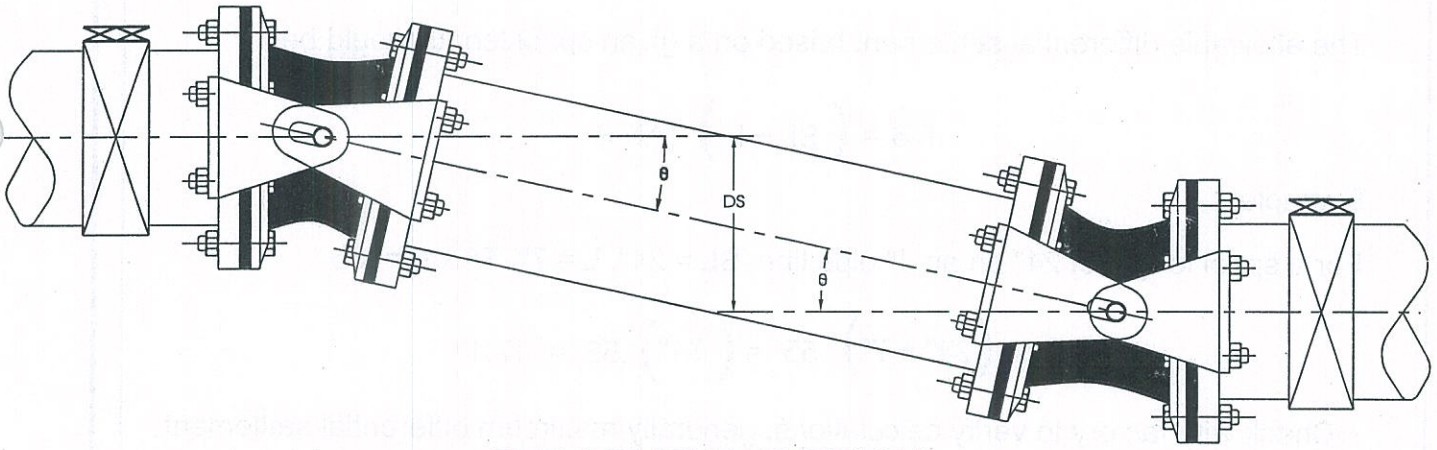
HINGED EXPANSION JOINTS

SAFEFLEX DEVELOPMENT

SAFEFLEX SFDEJ & SAFEFLEX SFDEJ-HE



NEUTRAL POSITION



SETTLEMENT POSITION

SAFEFLEX SFDEJ-HE

Pipe Size (in)	Allowable Angular θ Displacement	Tan θ	Length (L)
1-1/2	30°	.58	7
2	30°	.58	7
2-1/2	30°	.58	7
3	30°	.58	7
4	29°	.55	7
5	24°	.45	7
6	20°	.36	7
8	15°	.27	8
10	13°	.23	8
12	11°	.19	8
14	10°	.18	10

SAFEFLEX DEVELOPMENT | **MASON INDUSTRIES**

CALCULATIONS

The minimum spool length (SL) based on a specified differential settlement (DS) would be:

$$SL = \left(\frac{DS}{TAN\ \theta}\right) - L$$

Example:

For a required DS of 12" on an 10" pipe line DS = 12", L = 8", TAN θ = .23

$$SL = \left(\frac{12"}{.23}\right) - 8" = 52.2" - 8" = 44.2"$$

The allowable differential settlement based on a given spool length would be:

$$DS = \left(SL + L\right) TAN\ \theta$$

Example:

For a spool length of 24" on an 4" pipe line SL = 24", L = 7", TAN θ = .55

$$DS = \left(24" + 7"\right) .55 = \left(31"\right) .55 = 17.1"$$

* Check with factory to verify calculations, generally maximum differential settlement not to exceed 12".

SPECIFICATION

Offset shall be accomplished by the angular motion of a double sphere expansion joint bolted to each end of an intermediate steel pipe. Bracket each expansion joint with hinged steel connections. Hinges shall have a pin in a slot on both sides.

The piping on each end of the assembly must be securely anchored to accept a thrust of 1.5 times the operating pressure multiplied by the projected area of the pipe.

Specifications for the expansion joints shall be as Mason Industries Safeflex SFDEJ. The complete hinged assembly, Safeflex SFDEJ-HE as manufactured by Mason Industries Inc.