• Usually effective radius of mitre-bend, defined as the shortest distance from the pipe centre line to the intersection of the planes of adjacent mitre joints is 1.5D where D is the nominal pipe size in inches. However, one can select any other radius if called for.

• It is recommended to fabricate mitre bends after knowing length of Arm-1 & Arm-2 up to next weld (Refer Fig. 7). So as to avoid two additional welds.

• Because of high stress intensification factor they are not recommended on high temperature lines.

• Pressure-temperature rating for mitre bend is not the same as for pipe and in order to withstand same pressure-temperature conditions as applicable to pipe, a higher thickness is required for mitre bend.

As per ASME B31.3 (Cl. 304.2.3), the maximum allowable internal pressure shall be the lesser value calculated from equation given below :

These equations are not applicable when θ exceeds 22.5°

$$P_m = \frac{SE(T-C)}{r_2}\left(\frac{T-C}{(T-C)+0.643\tan\theta\sqrt{r_2(T-C)}}\right)$$

$$P_m = \frac{SE(T-C)}{r_2}\left(\frac{R_1-r_2}{R_1-0.5\,r_2}\right)$$

Where

Pm = Maximum allowable internal pressure for mitre bend.

T = Minimum Miter Pipe wall thickness.