～Cheet sheet of restrained length of bend, tee and Valve～

【Condition】

Backfill	**Slurry Backfill (Unconfined compression strength: 100lb/in^2)**
Earth covering	**6", 8":More than or equal to 30", 12":More than or equal to 36"**
Polyethylene	**Covered**
Safety factor	**1.25**

Unit: ft

DN (inch)	Bend Portions*)						Tee Portion**)			Valve and Dead end		
	≦22.5°	≦45°		≦90°								
	Design pressure	Design pressure		Design pressure			Design pressure			Design pressure		
	～250psi	~200psi	～250psi	～150psi	~200psi	～250psi	～150psi	~200psi	～250psi	～150psi	~200psi	～250psi
6"	**7ft**	**7ft**	**7ft**	**17ft**	**29ft**	**40ft**	**4ft**	**5ft**	**8ft**	**22ft**	**30ft**	**37ft**
8"	**7ft**	**7ft**	**34ft**	**27ft**	**43ft**	**58ft**	**4ft**	**11ft**	**15ft**	**27ft**	**38ft**	**47ft**
12"	**7ft**	**7ft**	**39ft**	**37ft**	**51ft**	**68ft**	**4ft**	**9ft**	**14ft**	**38ft**	**45ft**	**64ft**

*) Total length (One side length is half of the length)

**) Restrained length of branch, in case of restrained length of main pipeline is 8ft

In case of restrained length over 60ft, it is recommended to use thrust block