HDPE (PE100) SDR 21 (long term)	1.5	
Structured Wall Plastic Pipes (SWPP)	2 – 8	wall section can be a bespoke design
uPVC SDR 41	3.6	

Table A2-7 – Example Pipe Diametral Stiffnesses

Modulus of Soil Reaction

This is an empirical factor related to the degree of compaction applied to the pipe surround material on installation.

	E' kN/m2			
Nature of Soil in Pipe Zone	**Uncompacted**	**Light Compaction >85% Sp**	**Medium Compaction >90% Sp**	**High Compaction >95% Sp**
Single size gravel	5000	7000	10,000	14,000
Graded gravel	3000	7000	10,000	20,000
Sand	1000	5000	7000	14,000
Coarse soil with >12% fines Fine soil LL<50% and containing > 25% coarse particles	0	3000	5000	10,000
Fine grained soil LL<50% and containing <25% coarse particles	0	1000	3000	7000

Source: Saint Gobain Pipe & Fittings Water & Sewer Design Guide, Table A2- 7

Table A2-8: Modulus of Soil Reaction

A2.2.2 Semi-rigid Pipes (Ductile Iron)

Semi-rigid pipes exhibit similar structural properties to flexible pipes and the structural design procedure is similar to that for flexible pipes, i.e. based around ovalisation with checks for other factors. However there are additional factors to be taken into account and reference should be made to BS EN 1295 for the details.

The maximum recommended ovalisation is 3%.

For pipes supplied to BS 598 the pipe stiffnesses are as follows:

Pipe Nominal Bore (mm)	Pipe Diametral Stiffness (kN/m2) DI to BS EN 598
500	22
600	18
700	24
800	20