

ISO 11295:2017-11 (E)

Classification and information on design and applications of plastics piping systems used for renovation and replacement

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Abbreviated terms	5
5	Classification of renovation and replacement techniques	6
6	Classification of renovation techniques	7
6.1	General	7
6.2	Lining with continuous pipes	7
6.3	Lining with close-fit pipes	9
6.4	Lining with cured-in-place pipes	11
6.5	Lining with discrete pipes	14
6.6	Lining with adhesive-backed hoses	16
6.7	Lining with spirally-wound pipes	18
6.8	Lining with pipe segments	20
6.9	Lining with a rigidly anchored plastics inner layer	22
6.10	Lining with sprayed polymeric materials	23
6.11	Lining with inserted hoses	25
7	Classification of trenchless replacement techniques	26
7.1	General	26
7.2	Pipe bursting	26
7.3	Pipe removal	29
7.3.1	General	29
7.3.2	Pipe eating	29
7.3.3	Pipe extraction	29
7.4	Horizontal directional drilling -- HDD	31
7.5	Impact moling	34
7.6	Pipe jacking	35
7.6.1	General	35
7.6.2	Auger boring	35
7.6.3	Microtunnelling	36
8	Information on design	38
8.1	General	38
8.2	Condition assessment	38
8.2.1	General	38
8.2.2	Pipeline condition affecting functional performance	39
8.2.3	Site conditions affecting design	40
8.3	System functions	40
8.3.1	Renovation	40
8.3.2	Replacement	41
8.4	Performance criteria	41

8.4.1	Structural performance	41
8.4.2	Hydraulic performance	45
8.5	Other factors affecting technique family selection	45
9	Aspects affecting installation	46
9.1	Site conditions affecting installation	46
9.1.1	Working space requirements	46
9.1.2	Environmental impact	46
9.1.3	Assessment of site conditions	47
9.2	Work preparatory for installation	47
9.2.1	General	47
9.2.2	Location of existing pipeline system	47
9.2.3	Dimensions of existing pipeline system	48
9.2.4	Provision for maintenance of pipeline service	48
9.2.5	Preparation of existing pipeline	48
	Bibliography	49