

ISO 11295:2022-01 (E)

Plastics piping systems used for the rehabilitation of pipelines - Classification and overview of strategic, tactical and operational activities

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
3.1	General terms	2
3.2	Terms related to techniques	3
3.3	Terms related to services conditions	5
4	Abbreviated terms	5
5	Pipeline rehabilitation process	6
6	Investigation and condition assessment of the existing pipeline	6
6.1	Performance criteria	6
6.1.1	General	6
6.1.2	Hydraulic requirements	8
6.1.3	Structural requirements	8
6.1.4	Environmental requirement	8
6.1.5	Operational requirements	8
6.2	Investigation of performance	9
6.2.1	General	9
6.2.2	Hydraulic investigation	10
6.2.3	Structural investigation	10
6.2.4	Environmental investigation	11
6.2.5	Operational investigation	11
6.3	Condition assessment	11
6.4	Risk analysis	12
6.5	Control measures	12
7	Classification and characteristics of rehabilitation techniques	13
7.1	Overview	13
7.2	Classification of renovation techniques	14
7.2.1	General	14
7.2.2	Lining with continuous pipes	14
7.2.3	Lining with close-fit pipes	16
7.2.4	Lining with cured-in-place pipes	19
7.2.5	Lining with discrete pipes	23
7.2.6	Lining with adhesive-backed hoses	26
7.2.7	Lining with spirally-wound pipes	28
7.2.8	Lining with pipe segments	31
7.2.9	Lining with a rigidly anchored plastics inner layer	32
7.2.10	Lining with sprayed polymeric materials	34
7.2.11	Lining with inserted hoses	36
7.3	Classification of trenchless replacement techniques	37
7.3.1	General	37
7.3.2	Pipe bursting	38

7.3.3	Pipe removal	40
7.3.4	Horizontal directional drilling (HDD)	42
7.3.5	Impact moling	45
7.3.6	Pipe jacking	47
8	Selection of rehabilitation techniques	50
8.1	General	50
8.2	Pipeline system layout	50
8.3	Hydraulic performance	51
ISO 11295:2022(E) 8.4	Structural performance	52
8.4.1	General	52
8.4.2	Non-pressure pipes	52
8.4.3	Pressure pipes	53
8.5	Environmental impact	56
8.6	Construction constraints	57
8.7	Project specification	57
9	Implementation of rehabilitation techniques	58
9.1	Preconstruction activities	58
9.2	Assessment of conformity of products	59
9.3	Inspection, storage and handling of the materials on site	59
9.4	Application of rehabilitation technique	59
9.4.1	Preparatory work	59
9.4.2	Construction	60
9.5	Acceptance control	60
9.5.1	General	60
9.5.2	Inspection	60
9.5.3	Leak tightness testing	61
9.5.4	Sampling	62
9.6	Completion of the work	62
9.6.1	Finishing off the rehabilitation work	62
9.6.2	Lateral reinstatement	62
9.7	Documentation of the process	62
Bibliography	64