

ISO/TS 16943:2019-12 (E)

Thermoplastic pipes for the conveyance of fluids - Inspection of polyethylene electrofusion socket joints using phased array ultrasonic testing

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	General	3
5	Information required prior to testing	3
5.1	Items to be defined for the procedure development	3
5.2	Specific information required by the operator before testing	3
5.3	Written test procedure	3
6	Personnel qualifications	4
7	Equipment	4
7.1	General	4
7.2	Ultrasonic instrument and display	4
7.3	Ultrasonic probes	4
7.4	Scanning mechanisms	5
7.5	Couplant	5
8	Range and sensitivity settings	5
8.1	Settings	5
8.1.1	General	5
8.1.2	Range setting -- Test volume	5
8.1.3	Sensitivity setting	6
8.2	Reference sample	7
8.2.1	General	7
8.2.2	Reference block	7
8.2.3	Electrofusion socket fitting	7
8.3	Checking of the settings	7
9	Equipment checks	7
10	Test procedure	8
10.1	Procedure qualification	8
10.2	Scan increment	9
10.3	Component geometry	9
10.4	Preparation of scanning surfaces	9
10.5	Component temperature	9
10.6	Testing	9
10.7	Data storage	9
11	Evaluation and analysis of test data	10
11.1	General	10
11.2	Assessing the quality of the test data	10
11.3	Identification of relevant indications	10
11.4	Classification of relevant indications	10

11.5	Determination of location and size of indications	10
11.6	Assessment of indications	11
12	Test report	11
Annex A (informative)	Examples of phased array images	13
Annex B (informative)	Example of a reference block	15
Annex C (informative)	Example procedures for producing imperfections in electrofusion socket joints	16
Annex D (informative)	Detection of melt fusion zone boundary indication	20
Bibliography	22