

DIN EN ISO 15494:2021-05 (E)

Plastics piping systems for industrial applications - Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), polypropylene (PP) - Metric series for specifications for components and the system (ISO 15494:2015 + Amd 1:2020) (includes Amendment :2020)

Contents

Page

European foreword	4
▣ European foreword to Amendment ▣	5
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/68/EU for pressure equipment aimed to be covered	6
Foreword	7
▣ Foreword to Amendment ▣	8
Introduction	9
1 Scope	10
2 Normative references	11
3 Terms and definitions	13
3.1 Geometrical definitions	13
3.2 Material definitions	14
3.3 Definitions related to material characteristics	15
3.4 Definitions related to service conditions	15
4 Symbols and abbreviated terms	16
4.1 Symbols	16
4.2 Abbreviated terms	17
5 Material	18
5.1 General	18
5.2 Hydrostatic strength properties	18
5.3 Material characteristics	18
5.4 Reprocessable and recyclable material	18
5.5 Materials for components not made from PB, PE, PE-RT, PE-X, or PP	18
5.5.1 General	18
5.5.2 Metallic materials	19
5.5.3 Sealing materials	19
5.5.4 Other materials	19
6 General characteristics	19
6.1 Appearance	19
6.2 Colour	19
6.3 Influence of UV radiation	19
7 Geometrical characteristics	19
7.1 General	19
7.2 Mean outside diameters, out-of-roundness (ovality), and tolerances	20
7.3 Wall thicknesses and related tolerances	20
7.4 Angles	20
7.5 Laying lengths	20
7.6 Threads	20
7.7 Mechanical fittings	20
7.8 Joint dimensions of valves	20

8	Mechanical characteristics	20
8.1	Resistance to internal pressure of components	20
8.2	Calculation of the test pressure for components	21
8.2.1	Pipes	21
8.2.2	Fittings	21
8.2.3	Valves	21
8.2.4	Resistance to rapid crack propagation, RCP	21
9	Physical characteristics	21
10	Chemical characteristics	22
10.1	Effects on the component material(s)	22
10.2	Effects on the fluids	22
11	Electrical characteristics	22
12	Performance requirements	22
12.1	General	22
12.2	Fusion compatibility	22
13	Classification of components	22
14	Design and installation	23
15	Declaration of conformity	23
16	Marking	23
16.1	General	23
16.2	Minimum required marking of pipes	23
16.3	Minimum required marking of fittings	24
16.4	Minimum required marking of valves	24
Annex A	(normative) Specific characteristics and requirements for industrial piping systems made from polybutene (PB)	25
Annex B	(normative) Specific characteristics and requirements for industrial piping systems made from polyethylene (PE)	38
Annex C	(normative) Specific characteristics and requirements for industrial piping systems made from polyethylene of raised temperature resistance (PE-RT)	65
Annex D	(normative) Specific characteristics and requirements for industrial piping systems made from crosslinked polyethylene (PE-X)	72
Annex E	(normative) Specific characteristics and requirements for industrial piping systems made from polypropylene (PP)	82
Annex F	(informative) Design and installation	108
Bibliography	109