

# DIN EN 13480-8:2017-12 (E)

## Metallic industrial piping - Part 8: Additional requirements for aluminium and aluminium alloy piping

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
1	Scope .....	6
2	Normative references .....	6
3	Terms, definitions, symbols and units .....	8
4	General requirements .....	8
5	Materials .....	8
5.1	General .....	8
5.2	Material groupings system .....	8
5.3	Elongation after fracture .....	9
5.4	Chemical composition .....	10
5.5	Lamellar tearing .....	10
5.6	Design temperature and properties .....	10
5.7	Prevention of brittle fracture .....	10
5.8	Specific requirements for fasteners made of aluminium and aluminium alloys .....	11
5.9	Lined piping .....	11
5.10	Clad products .....	11
5.11	Technical delivery conditions for welding consumables .....	11
6	Design .....	11
6.1	General .....	11
6.2	Time independent nominal design stress .....	11
6.3	Straight pipes .....	12
6.4	Pipe bends and elbows .....	12
6.5	Mitre bends .....	12
6.6	Socket welds .....	14
6.7	Designing with transition joints .....	14
6.7.1	Design considerations .....	14
6.7.2	Location of transition joints .....	14
6.7.3	Requirements for transition joints .....	14
6.8	Porthole extruded tubes .....	14
6.9	Alternative methods .....	14
7	Fabrication and installation .....	15
7.1	General .....	15
7.2	Material grouping .....	15
7.3	Tolerances .....	15
7.3.1	Welded pipes and connection dimensions of pipe fittings .....	15
7.3.2	Welded piping construction .....	15
7.4	Cutting and bevelling .....	16
7.5	Bending and other forming .....	16
7.5.1	General .....	16
7.5.2	Definition of cold and hot forming .....	16
7.5.3	Heat treatment after cold forming .....	16
7.5.4	Heat treatment after hot forming .....	18
7.6	Welding .....	19

7.6.1	Welding personnel .....	19
7.6.2	Welding processes .....	19
7.6.3	Weld joint preparation .....	19
7.6.4	Preheating .....	20
7.6.5	Backing rings and backing strips .....	21
7.6.6	Postweld heat treatment (PWHT) .....	21
8	Inspection and testing .....	21
8.1	General .....	21
8.2	Formed pressure retaining parts .....	22
8.2.1	General .....	22
8.2.2	Testing of formed parts .....	22
8.2.3	Destructive testing of formed and heat treated parts .....	22
8.3	Welding .....	23
8.4	Visual and nondestructive testing of welds .....	23
8.4.1	Application of NDT .....	23
8.4.2	Circumferential, branch, socket and seal welds .....	23
8.4.3	Longitudinal welds and spiral welded tubes/pipes .....	24
8.5	VT and NDT Methods .....	24
8.6	Production test plates for welded pipes .....	25
9	Final assessment and documentation .....	26
9.1	General .....	26
9.2	Pneumatic pressure test .....	27
9.3	Documentation for components .....	27
	Annex A (informative) Dimensional tolerances .....	29
	Annex B (normative) Transition joints .....	31
	Annex C (normative) Nominal design stress values .....	36
	Annex Y (informative) History of EN 134808 .....	43
	Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2014/68/EU aimed to be covered .....	44
	Bibliography .....	45