DIN EN ISO 17945:2015-08 (E)

Petroleum, petrochemical and natural gas industries - Metallic materials resistant to sulfide stress cracking in corrosive petroleum refining environments (ISO 17945:2015)

Contents

Page

13.6 Specific austenitic stainless steel grades 21
13.7 Highly alloyed austenitic stainless steels 21
13.8 Duplex stainless steels 21
13.8.1 General requirements for duplex stainless steels 21
13.8.2 Welding requirements for duplex stainless steels 22
13.9 Precipitation-hardenable stainless steels 22
13.9.1 Austenitic precipitation-hardenable stainless steel 22
13.9.2 Martensitic precipitation-hardenable stainless steels 22
13.9.3 Welding requirements for precipitation-hardenable stainless steels 23

14 Nonferrous materials 24
14.1 Nickel alloys 24
14.1.1 Solid-solution nickel alloys 24
14.1.2 Precipitation-hardenable nickel alloys 25
14.2 Cobalt-Nickel-chromium-molybdenum alloys 25
14.3 Cobalt-nickel-chromium-tungsten alloys 26
14.4 Titanium alloys 26
14.5 Aluminium alloys 27
14.6 Copper alloys 27

15 Fabrication requirements 27
15.1 General fabrication requirements 27
15.2 Corrosion resistant overlays, hard facing overlays, and cladding 27
15.3 Welding 27
15.4 Cladding on carbon steels, alloy steels, and martensitic stainless steels 28
15.5 Identification stamping 28
15.6 Threading 29
15.6.1 Machine-cut threads 29
15.6.2 Cold-formed (rolled) threads 29
15.7 Cold-deformation processes 29

16 Bolting 29
16.1 General bolting requirements 29
16.2 Exposed bolting 29
16.3 Nonexposed bolting 30

17 Plating, coatings, and diffusion processes 30

18 Special components 30
18.1 General requirements for special components 30
18.2 Bearings 30
18.3 Springs 31
18.4 Instrumentation and control devices 31
18.4.1 General requirements for instrumentation and control devices 31
18.4.2 Diaphragms, pressure-measuring devices, and pressure seals 31
18.5 Seal rings and gaskets 31
18.6 Snap Rings 32
18.7 Special process parts 32

19 Valves 32

20 Compressors and pumps 32

Annex A (informative) Sulfide species plot 34

Annex B (informative) Background information on hardness testing and requirements 35

Annex C (normative) Welding procedure qualification hardness survey layouts 39

Bibliography 48