

# DIN 21057-11:2017-04 (E)

## Pipe classes for process plants - Part 11 : Technical delivery conditions for pipe components of austenitic stainless steels of material group 8.1

---

<b>Contents</b>	<b>Page</b>
Foreword .....	4
1 Scope .....	5
2 Normative references .....	6
3 Symbols and abbreviations.....	8
4 General information .....	8
4.1 Prevention of brittle fracture — Minimum allowable temperature $TS_{min}$ .....	8
5 Inspection documents.....	8
5.1 General .....	8
5.2 Additional requirements for distributors .....	8
6 Supplementary provisions .....	8
6.1 Resistance to intergranular corrosion.....	8
6.2 Qualification of welding procedures, welders and NDT personnel .....	9
6.3 Filler materials .....	9
6.4 Weld spatter .....	9
7 Technical delivery conditions for pipes.....	10
8 Technical delivery conditions for pipe fittings.....	11
8.1 General requirements for pipe fittings.....	11
8.2 Pipe elbows.....	12
8.3 Reducers .....	12
8.4 Tees.....	13
8.5 Caps.....	13
9 Technical delivery conditions for reinforced nozzles.....	14
10 Technical delivery conditions for flanges.....	15
10.1 General requirements.....	15
10.2 Technical delivery conditions for welding neck flanges.....	15
10.3 Technical delivery conditions for blind flanges .....	16
11 Technical delivery conditions for fasteners .....	16
11.1 Strength characteristics of cold work hardened bolts at elevated temperatures .....	16
11.2 Hexagon head bolts.....	17
11.3 Threaded stud bolts.....	17
11.4 Double-end studs.....	18
11.5 Hexagon nuts for hexagon head bolts and threaded stud bolts .....	19
11.6 NF-type hexagon nuts for double-end studs.....	20
11.7 Washers.....	20
Annex A (normative) Dimensions and allowable pressures .....	21
A.1 Dimensional specifications .....	21
A.2 Allowable pressures at elevated temperatures .....	21
A.3 Pipe .....	21
A.4 Fittings.....	24
A.4.1 Pipe elbow .....	24

<b>A.4.2</b>	<b>Reducers .....</b>	<b>27</b>
<b>A.4.3</b>	<b>Tees.....</b>	<b>30</b>
<b>A.4.4</b>	<b>Caps.....</b>	<b>40</b>
<b>Annex B (informative)</b>	<b>Pipe classes PN 10 to PN 100, material 1.4541 (HC).....</b>	<b>42</b>
<b>B.1</b>	<b>General .....</b>	<b>42</b>
<b>B.1.1</b>	<b>Fluid assignment.....</b>	<b>42</b>
<b>B.2</b>	<b>Additional requirements .....</b>	<b>42</b>
<b>B.3</b>	<b>Nominal diameter ranges .....</b>	<b>42</b>
<b>B.4</b>	<b>Key to branch tables .....</b>	<b>42</b>
<b>B.5</b>	<b>Sample pipe classes .....</b>	<b>43</b>
<b>B.5.1</b>	<b>Pipe class 10HC01B1.....</b>	<b>43</b>
<b>B.5.2</b>	<b>Pipe class 16HC01B1.....</b>	<b>48</b>
<b>B.5.3</b>	<b>Pipe class 25HC01B1.....</b>	<b>53</b>
<b>B.5.4</b>	<b>Pipe class 40HC01B1.....</b>	<b>58</b>
<b>B.5.5</b>	<b>Pipe class 63HC01B1.....</b>	<b>63</b>
<b>B.5.6</b>	<b>Pipe class 100HC01B1 .....</b>	<b>68</b>