

Seamless Pipe Caps

End caps for pressure-bearing piping systems in industry, energy and nuclear

Type: Hemispherical cap (standard) · flat bottom on request · custom geometries per drawing

Standards: EN 10253-2/-4 · ASME B16.9

Materials: Carbon steel · low-temp steel · CrMo creep-resistant · P91/P92 · stainless 304L/316L/321/347/316Ti/904L/6Mo · duplex · super duplex · nickel-based · CuNi

Test certificates: EN 10204 type 3.1 / 3.2 · NDT on request · external inspection available

Certifications: ISO 9001 · AD 2000 · ISO 19443 (nuclear)

1 Applications

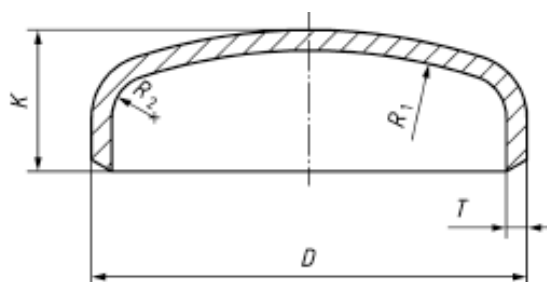
Caps are used as pressure-bearing closures at the end of piping runs – either permanently or temporarily. They must withstand the same operating and test pressure requirements as the rest of the piping system.

- ✓ **Sealing piping ends**
Permanent closure of pipe runs, nozzles and bypass connections
- ✓ **Pressure testing & commissioning**
Temporary closure for pressure tests and flushing operations
- ✓ **Future extensions**
Preparation for later piping branches or connections
- ✓ **Nuclear & high-pressure**
Qualified design per ISO 19443 and AD 2000

2 Designs

Caps are supplied as standard as hemispherical caps per EN 10253 or ASME B16.9. This geometry ensures optimum pressure distribution and minimal material usage at maximum pressure-bearing capacity.

Type	Standard	Characteristic
Hemispherical cap	EN 10253-2/-4 · ASME B16.9	Standard design – optimum pressure resistance, low installed length
Flat bottom cap	Per drawing / project specification	For special structural requirements
Custom geometries	Per drawing	Project-specific dimensions, special wall thicknesses



3 Manufacturing & Quality Assurance

Caps are manufactured by deep drawing or pressing from plate or pipe. Depending on material and wall thickness, forming is carried out hot or cold, followed by heat treatment and machining.

- ✓ **Uniform wall thickness**
 Controlled forming, no thin spots in the bottom area
- ✓ **Pressure-tested & documented**
 EN 10204 type 3.1 / 3.2 inspection certificates
- ✓ **Full traceability**
 Heat and batch documentation
- ✓ **Custom production available**
 Custom dimensions, wall thicknesses and surface treatments on request

4 Materials

EN materials	ASTM / ASME materials
P235GH (1.0345) · P265GH (1.0425)	A/SA 234 WPA · WPB · WPC
P355N (1.0562) · P355NH (1.0565)	A/SA 420 WPL6
L360NE (EN ISO 3183)	A/SA 420 WPL6 · API 5L L360
16Mo3 (1.5415)	A/SA 234 WP1
13CrMo4-5 (1.7335) · 10CrMo9-10 (1.7380)	A/SA 234 WP12 · WP22
X10CrMoVNb9-1 – P91 (1.4903)	A/SA 234 WP91
X11CrMoWVNb9-1-1 – P92 (1.4901)	A/SA 234 WP92
X2CrNi18-9 – 304L (1.4306 / 1.4307)	A/SA 403 WP304L
X2CrNiMo17-12-2 – 316L (1.4404)	A/SA 403 WP316L
X5CrNiMo17-12-2 – 316 (1.4401)	A/SA 403 WP316
X6CrNiTi18-10 – 321 (1.4541)	A/SA 403 WP321
X6CrNiNb18-10 – 347 (1.4550)	A/SA 403 WP347
X6CrNiMoTi17-12-2 – 316Ti (1.4571)	A/SA 403 WP316Ti
X1NiCrMoCu25-20-5 – 904L (1.4539)	A/SA 403 WP904L
X1NiCrMoCuN25-20-7 – 6Mo (1.4529)	A/SA 403 WP926 (6Mo)
X2CrNiMoN22-5-3 – Duplex 2205 (1.4462)	A/SA 815 S31803
X2CrNiMoN25-7-4 – Super Duplex 2507 (1.4410)	A/SA 815 S32750
NiCr22Mo9Nb – Alloy 625 (2.4856)	SB-366 WPN625
CuNi10Fe1Mn – CuNi 90/10 (2.0872)	SB-467 C70600

Special materials & high-performance alloys

- Super Duplex (e.g. 1.4410 / S32750)
- Nickel-based alloys: Inconel, Hastelloy, Monel
- Copper-nickel alloys (CuNi 90/10, 70/30)
- Further project-specific materials on request

5 Standards & Codes

EN 10253-2/-4: Butt-welding pipe fittings made of steel

ASME B16.9: Factory-Made Wrought Butt Welding Fittings

2014/68/EU (PED): Pressure Equipment Directive · AD 2000 code

Manufacturing in accordance with the AD 2000 code as well as project-specific specifications or technical drawings on request.

6 Quality & Documentation

Certified to DIN EN ISO 9001, AD 2000 and ISO 19443. Every delivery is fully inspected and documented.

Standard inspection

- Visual inspection
- Dimensional checks
- Material certificate 3.1

Extended inspection

- NDT (RT, UT, PT, MT)
- PMI analysis
- Material testing

External acceptance

- TÜV / SGS / DNV / Lloyd's
- Certificate EN 10204 type 3.2
- Customer-specific inspection

7 Nirotec as Project Supplier

We supply caps as a stand-alone component or as part of a complete fittings package – together with elbows, tees, reducers and flanges, uniformly documented and from a single source.

Your benefit: One contact for all pipe fittings within your project – no coordination effort between multiple suppliers.

8 Inquiry & Contact

For a project-specific inquiry we ideally require:

- Type (hemispherical, flat bottom or custom)
- Standard (EN 10253 or ASME B16.9)
- Material grade and, if applicable, heat restriction
- Nominal size (DN / NPS), wall thickness or schedule
- Quantity and requested delivery date
- Required documentation (3.1 / 3.2, NDT, external inspection)

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