

# Seamless Pipe Tees

*Equal and reducing types for industrial piping systems*

**Types:** Equal tees (straight branch) · Reducing tees (reduced branch)

**Standards:** EN 10253-2/-4 · ASME B16.9 · MSS SP-75

**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

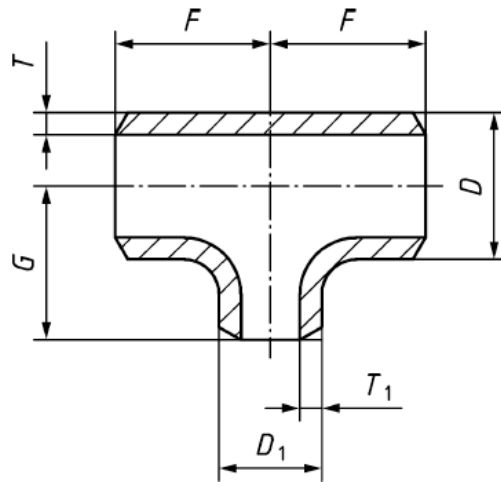
Tees are used wherever piping branches need to be split or merged. They are a key component in piping systems within process and energy engineering and must meet the highest requirements regarding tightness, material integrity and pressure-bearing capacity.

- ✓ **Power plants & energy**  
High-pressure / high-temperature systems, steam and cooling-water piping
- ✓ **Chemical industry & refineries**  
Corrosive process media, aggressive ambient conditions
- ✓ **Equipment & plant engineering**  
Custom dimensions, drawn parts, tight tolerance requirements
- ✓ **Nuclear**  
Qualified supply chain per ISO 19443

## 2 Types & Designs

We supply tees in two basic configurations – equal and reducing – to European and American standards.

Designation	Standard	Characteristic
Equal tee	EN 10253 / ASME B16.9	All three connections of equal nominal size – run and branch identical (TST / TEE)
Reducing tee	EN 10253 / ASME B16.9	Branch with smaller nominal size than run – most common custom variant (TSR / Reducing TEE)
Barred / butt-welded tee	ASME B16.9 / MSS SP-75	For high-pressure applications; equal-wall-thickness design available
Custom designs	Per drawing	Custom angles, asymmetric branches, project specifications



### 3 Manufacturing & Quality Assurance

Tees are manufactured by die forging, pressing or expanding from pipe or bar material. Depending on material and wall thickness, forming is carried out hot or cold and is followed by heat treatment in line with the material grade.

- ✓ **High wall thickness uniformity**  
Even material distribution also in the branch area
- ✓ **Tight dimensional tolerances**  
Precise geometry for direct installation without rework
- ✓ **Full traceability**  
Continuous documentation, EN 10204 inspection certificates
- ✓ **Custom production to drawing**  
Project specifications, custom dimensions, customer specifications

### 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

EN materials	ASTM / ASME materials
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

**MSS SP-75:** High-Strength 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

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## 7 Nirotec as Project Supplier

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We supply tees as a stand-alone component or as part of a complete fittings package – together with elbows, reducers, caps 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.

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## 8 Inquiry & Contact

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For a project-specific inquiry we ideally require:

- Type: equal or reducing branch
- Standard (e.g. ASME B16.9 TEE or EN 10253)
- Material grade and, if applicable, heat restriction
- Run and branch nominal size: DN / NPS, wall thickness or schedule
- Quantity and requested delivery date
- Required documentation (3.1 / 3.2, NDT, external inspection)

**Nirotec GmbH & Co. KG**

Otto-Hahn-Str. 4 · 59423 Unna · Germany

Tel.: +49 (0) 2303 / 985-0 · [info@nirotec.de](mailto:info@nirotec.de) · [www.nirotec.de](http://www.nirotec.de)