Carbon and stainless steel pipes/tubes for mechanical engineering and structural applications

ThyssenKrupp Materials Austria
The area of materials management is placing ever greater demands on companies and employees, with improved profitability one of the key objectives.

Greater efficiency in procurement will be reflected subsequently in a better market position for the products.

Our all-round service helps meet these requirements. From materials to processing to just-in-sequence delivery, we are the right contact for your procurement needs.
Consulting
· Transportation logistics
· Use of materials
· Package solutions

Application-oriented stock range
· Stainless steel pipes/tubes and accessories
· Carbon steel pipes/tubes and accessories
· Rolled steel products

Customized processing
· Processing services for the entire product range

Material testing
· Preparation of specimens
· Non-destructive and mechanical tests
· Third-party acceptance testing
· Documentation

Just-in-sequence delivery
· Coordination of materials procurement
· Processing and transportation logistics to specified delivery cycles

Quality assurance
· Our quality management guarantees uniform high quality standards
Our range of services

Our aim is to provide outstanding service. Your requirements are our yardstick for success. Contact our sales staff.
We demand top quality and outstanding service from ourselves and our suppliers with the aim of keeping our customers satisfied in every respect. When selecting our suppliers, we take particular care to ensure that they are flexible and dependable.

Key to partnering us is the ability to meet the most exacting quality requirements.

But even after we have made our selection, we constantly check on the efficiency and quality of our suppliers.

And we apply these same high quality standards to our own operations.

Continuous quality control from incoming goods to storage to outgoing goods is a matter of course. Our established quality assurance procedures guarantee our customers the dependability they have come to expect from us.

Our EN ISO 9001 quality management system has been certified by an internationally accredited inspection company and is subjected to regular internal and external audits.

The right product for every requirement
To ensure that every seamless or welded steel pipe/tube meets the requirements placed on it, selecting the right material quality for the job is essential.

Each material has its own specific properties that make it particularly suitable for its intended use.

The various materials have been classified in groups in line with their general application areas.

In the following, we present the individual product groups with the applicable standards and indicate the materials allocated to each type of pipe/tube.
Our special service

Cutting options

- Miter/ double miter
- Alignment centric
- Alignment eccentric
- Penetration centric
- Penetration eccentric

Processing at a glance
We not only supply the grades and dimensions of your choice, we also ensure rapid and flexible deployment on site with our broad processing offering. This helps you save time and money as time-consuming preparation work on site is eliminated. The pipes/tubes are delivered ready-cut for your project and can be immediately installed at the construction site.

Cutting
Our cutting center is designed to meet any requirement. We cut fixed lengths in many different dimensions up to 850 mm outside diameter (OD). We can also produce miter cuts and special end shapes in accordance with your specifications and bills of materials.

Weld seam preparation
Our comprehensive services also include weld seam preparation.

With our profile milling machines we can produce a diverse range of joint geometries in all dimensions in accordance with customer wishes. Even the beveling of miter cuts is no problem for us.

In this way we create the prerequisites for good and secure joints.

Preserving
Following preliminary treatment, the material is blasted with grade SA 1, 2, 21/2 and 3 steel grit in accordance with DIN 55928 Part 4. We then coat the material either with a shop primer for short-term corrosion protection or with a coating material suitable for long-term corrosion protection. A further temporary corrosion protection option for steel pipes/tubes is oiling.

Tube flame-cutting machine
This machine enables a wide variety of processing options for pipe/tube ends and the cutting of holes in round pipes/tubes. We can solve contour problems with the tube flame-cutting machine:

Contours are possible for pipes/tubes with outside diameters of 30 to 800 mm, wall thicknesses of 3 to 100 mm and pipe/tube lengths of 300 to 14,000 mm.

Grinding
On request we can carry out surface grinding in particular of precision steel pipes/tubes. The choice of grain is based on the required surface fineness for the pipes/tubes.
Material testing/Inspection certificates

We can carry out all common tests for you. These include:

- Non-destructive testing, e.g. ultrasound tests and surface crack tests.
- Destructive testing, e.g. chemical analyses, tear tests, hardness tests, notched bar impact tests.
- Technological testing, e.g. flattening tests, bending tests, ring flaring tests, drift expanding tests and flanging tests.

We work together with your inspectors or the inspection companies specified by you, e.g. the German Technical Inspection Agency (TÜV), Lloyd’s Register of Shipping (LRS), Det Norske Veritas (DNV), Germanischer Lloyd (GL), Bureau Veritas (BV), American Bureau of Shipping (ABS).

Certification in accordance with EN 10204
We offer our customers certified safety. On request, your delivery can be made with the certification you require in accordance with EN 10204. Please define the type of certification when placing the order.

The various certifications in accordance with the latest edition of EN 10204 (January 2005 version) are listed in the above table.
Steel tubes for mechanical engineering and construction

Steel tubes for machining

Seamless heavy-wall tubes
Tubes for steel construction, mechanical engineering and compressive stresses in accordance with EN 10210/EN 10297-1/EN10216-3. Can be used in steel construction and mechanical engineering where acceptance testing is required and with additional testing to 3.2 (formerly 3.1.C) under the European Pressure Equipment Directive (PED).

Steel grades
- S355J2H/E355
- P355N/S355J2H/E355

Dimensions
in accordance with EN 10220/DIN 2448
- 10.2 – 660 mm OD
- 1.8 – 100 mm wall

Inspection certificate
- APZ 3.1 in accordance with EN 10204 (formerly 3.1.B)

Welded steel tubes
Welded circular steel tubes made of unalloyed steels in accordance with EN 10219/DIN 1626.

Steel grades
- S235JRH (St 37.0)
- S355J2H (St 52.0)

Dimensions
in accordance with EN 10220 (DIN 2458)
- 10.2 – 508 mm OD
- 2.0 – 11 mm wall

Inspection certificate
- APZ 3.1 in accordance with EN 10204 (formerly 3.1.B)

Seamless hollow bars for machining
For turning with short chip breaking. The finished turned part is suitable for a wide range of heat treatments and coatings.

Steel grade
- 20MnV6

Dimensions
- 32 – 400 mm OD
- 3.5 – 52.5 mm wall

guaranteed achievable finish-turned dimensions for components up to three times the length of the OD, max. 200 mm component length.
Seamless cold-drawn precision steel pipes/tubes
in accordance with EN 10305-1/DIN 2391

Steel grades
- E235+C (St 35 BK)
- E235+N (St 35 NBK)
- E355+C (St 52 BK)
on request

Dimensions
- 4 – 200 mm OD
- 0.5 – 15 mm wall

Inspection certificate
- Test report 2.2 in accordance with EN 10204

Options
Dimensions up to 380 mm OD and 25 mm wall thickness and low-carbon steel grades E215 (St 30 Al), fine grain grades and case hardening/heat-treatable steels manufactured to order

Seamless cold-drawn HPL precision steel pipes/tubes
Can be used without restrictions under the PED up to 500 bar and in the automotive industry in accordance with EN 10305-4/DIN 1630/2391

Steel grade
- E235+N/St 37.4 NBK

Dimensions
- 4 x 0.5 mm – 80 x 10 mm

Inspection certificate
- APZ 3.1 (formerly 3.1.B)

Options
- bonderized
- yellow
- white chromated

Manufactured to order
- green chromated
- E355+N/St 52.4

Welded cold-drawn precision steel pipes/tubes
in accordance with EN 10305-2 (DIN 2393)

Steel grades
- E195 (St 34-2)
- E235 (St 37-2)
- E275 (St 44-2)
- E355 (St 52-3)

Dimensions
- 4 x 0.5 – 150 x 10 mm

Inspection certificate
- Test report 2.2 in accordance with EN 10204

Options
- +C (BK)
- +N (NBK)

Welded size-rolled precision steel pipes/tubes
in accordance with DIN 2394 (EN 10305-3)

Steel grades
- St 34-2
- St 37-2

Supplied in the BKM-soft condition (E220+CR2 and E260+CR2), suitable for limited cold bending

Dimensions
- 10 – 120 mm OD
- 1 – 5 mm wall

Special options manufactured to order
- Dimensions up to 200 mm OD and 8 mm wall thickness
- Steel grades St 44-2 and St 52-3
- Supplied in BKM-hard (+CR1) and annealed (+A)
- Hot-dip galvanized, galvanized and chrome-plated pipes/tubes
Special supporting roller tubes
Welded size-rolled precision steel tubes with special concentricity in accordance with EN 10305-3 (DIN 2394)

Steel grade
- E235 (St 37-2)

Dimensions
- 50 – 219.1 mm OD
- 1.6 – 12.5 mm wall

Welded size-formed precision steel tubes with square and rectangular cross-sections for construction and furniture making with surface quality requirements and tolerances in accordance with EN 10305-5 (DIN 2395)

Steel grades
- E195 (St 34-2)
- E235 (St 37-2)
- E275 (St 44-2)
- E355 (St 52-3)

Dimensions
- square:
  - 10 x 10 x 1 – 100 x 100 x 5 mm
- rectangular:
  - 20 x 10 x 1 – 120 x 80 x 5 mm

Delivery conditions
BKM-hard (CR1), annealed N (+A) and made of TM strip E220+CR2, E260+CR2

Special options:
hot-dip galvanized, galvanized and chrome-plated tubes

Hollow-drawn bright free-machining steel tubes in accordance with DIN 1651

Steel grades
- 9SMn28
- 9SMn36

on request also in lead-alloyed finishes manufactured to order.

Dimensions
- round exterior and interior:
  - 5 – 125 mm OD
  - 2 – 109 mm inside diameter (ID)
  - 1 – 25 mm wall
- hexagonal exterior, round interior:
  - 8 – 115 mm width across flats
  - 3 – 95 mm ID
  - 2 – 25 mm wall
Seamless cylinder tubes (HP tubes)
manufactured from seamless precision steel tubes through honing or roller-burnishing in accordance with EN 10305-1 (DIN 2391)

Steel grade
· E355+SR (St 52 BK+S)

Dimensions
· 35 – 280 mm OD
· 25 – 250 mm ID
· 5 – 20 mm wall

Tolerances
· DIN 2391 OD
· Standard H8 ID
· low wall thicknesses, in part H9–H11
· max. +/-10% eccentricity

Welded cylinder tubes (HPS tubes)
Manufactured from welded precision steel tubes through additional precision drawing in accordance with EN 10305-2 (DIN 2393)

Steel grade
· E355+C (St 52-3 BK)

Dimensions
· 30 – 100 mm OD
· 25 – 90 mm ID
· 2.5 – 7.5 mm wall

Tolerances
· DIN 2393 OD
· H9/H10 ID
· max. +/-4% eccentricity

Piston rods
Hard chrome-plated piston rods

Steel grades
· C45E to 18 mm dia.
· 20MnV6 above 18 mm dia.

Chrome layer thickness
· 17 +/-3 μ to 18 mm dia.
· 25 +/-5 μ above 18 mm dia.

Dimensions
· 6 – 200 mm dia.

Special options
Steel grades
· 42CrMo4+QT and X22CrNi13 hard chrome-plated
· C45E and 42CrMo4+QT induction hardened
· Dimensions greater than 200 mm dia.
**HPZ tubes**
Seamless precision steel tubes for the manufacture of cylinder tubes in accordance with EN 10305-1 (DIN 2391)

**Steel grades**
- E355 (St 52)
- E460N (StE 460)

**Dimensions**
- 50 – 380 mm OD
- 40 – 340 mm ID
- 5 – 25 mm wall

**Delivery conditions**
- BK (+C)
- BKS (+SR)

**HPK tubes**
Seamless precision steel tubes for the manufacture of pistons and telescopic cylinders in accordance with EN 10305-1 (DIN 2391)

**Steel grades**
- E355 (St 52)
- E460N (StE 460)
- C45E (CK45)

**Dimensions**
- 40 – 300 mm OD
- 3 – 25 mm wall

**Delivery conditions**
- BK (+C)
- BKS (+SR)
Structural hollow sections and other steel tubes for structural applications

Hot-finished structural hollow sections (square and rectangular)
with defined structural values for elasticity and torsional stiffness in accordance with EN 10210 (formerly DIN 59410)

Steel grades
- S235JRH
- S355J2H
- S460NH

Dimensions
- square
  - 40 x 40 – 400 x 400 mm
  - 2.9 – 17.5 mm wall
- rectangular
  - 50 x 30 – 500 x 300 mm
  - 2.9 – 16 mm wall

Inspection certificate
- APZ 3.1 (formerly 3.1.B) in accordance with EN 10204, on request 3.2- TÜV (German Technical Inspection Agency) and other inspection companies according to customer specification.

Hot-finished circular structural hollow sections
from seamless manufacturing processes with defined structural values for elasticity and torsional stiffness in accordance with EN 10210 (formerly DIN 17121/general structural steels and DIN 17124/fine grain grades)

Steel grades
- S235JRH
- S355J2H
- S460NH

Dimensions
- 21.3 – 711 mm OD
- 2.0 – 60 mm wall

Inspection certificate
- APZ 3.1 in accordance with EN 10204 (formerly 3.1.B), on request 3.2-TÜV and other inspection companies in accordance with customer specification.

Cold-formed structural hollow sections (square and rectangular)
with defined structural values for elasticity and torsional stiffness in accordance with EN 10219 (formerly DIN 59411), welded

Steel grades
- S235JRH
- S275J0H
- S355J2H

Dimensions
- square
  - 20 x 20 – 400 x 400 mm
  - 2.0 – 12.5 mm wall
- rectangular
  - 40 x 20 – 400 x 300 mm
  - 2.0 – 12.5 mm wall

Inspection certificate
- APZ 3.1 in accordance with EN 10204 (formerly 3.1.B), on request 3.2-TÜV and other inspection companies in accordance with customer specification.
Cold-formed circular structural hollow sections
with defined structural values for elasticity and torsional stiffness in accordance with EN 10219 (formerly DIN 17120/general structural steels), welded

Steel grades
- S235JRH
- S275J0H
- S355J2H

Dimensions
- 21.3 – 1,219 mm OD
- 2.0 – 25 mm wall

Inspection certificate
- APZ 3.1 in accordance with EN 10204 (formerly 3.1.B), on request 3.2-TÜV and other inspection companies in accordance with customer specification.

Welded square and rectangular tubes
of black strip S1 in accordance with EN 10305-5 (DIN 2395) for applications in substructures

Steel grades
- E195 (S185)
- E235 (S235JRG2)

Dimensions
- square
  - 10 x 10 x 1 – 100 x 100 x 5 mm
- rectangular
  - 20 x 10 x 1 – 120 x 80 x 5 mm

Special options
- hot-dip galvanized

Scaffold tubes
welded or seamless in accordance with EN 39 (DIN 4427)

Steel grade
- S235GT (St 37)

Dimensions
- 48.3 mm OD
- 3.2 and 4.0 mm wall

Inspection certificate
- Certificate of compliance 2.1 or test report 2.2 in accordance with EN 10204 on request

Options
- hot-dip galvanized
- also black on request

Tubes for rails and structural applications
Welded tubes for substructures:
- non-standardized 1/2” – 2”
- in accordance with DIN 1615, in selected dimensions in accordance with DIN 2458

Steel grades
- unalloyed steel St 33-2

Usually without an inspection certificate.
Stainless steel tubes

Austenitic stainless steel tubes in accordance with DIN/EN. Help yourself from our well-stocked warehouse.
Structural tubes and hollow sections of austenitic stainless steels

Decorative tubes
Exterior: bright metallic or polished, grain 240, tolerances to EN ISO 1127, unannealed, random lengths of 6 m

Steel grade
· 1.4301

Dimensions
· 16.0 – 114.3 mm OD
· 1.5 – 3.2 mm wall

Square tubes
Longitudinally welded, exterior: bright metallic or polished, grain 240, random lengths of 6 m

Steel grades
· 1.4301
· 1.4571

Dimensions
· square
  · 15 – 200 mm
  · 1.0 – 5.0 mm wall

· rectangular
  · 20 x 10 – 250 x 50 mm
  · 1.0 – 5.0 wall

Inspection certificate
· APZ 3.1 in accordance with EN 10204 (formerly 3.1.B)

Flat rectangular tubes
Longitudinally welded, exterior: bright metallic, random lengths of 6 m

Steel grade
· 1.4301

Dimensions
· 40 x 10 x 1.0 – 100 x 20 x 2.0 mm

Inspection certificate
· APZ 3.1 in accordance with EN 10204 (formerly 3.1.B)

Hollow bar
Hot finished, extruded, technical delivery terms and conditions, heat-treated, descaled, random lengths of 2 – 7 m in accordance with DIN 17456/17458 (EN 10297-2)

Steel grades
· 1.4301
· 1.4571

Dimensions
· 32 – 250 mm OD
· 16 – 200 mm ID
· 5.5 – 43.0 mm wall

Inspection certificate
· APZ 3.1 in accordance with EN 10204 (formerly 3.1.B)
Technical information

Full comparison of the DIN and EN standards for pipes/tubes and accessories
## DIN and EN standards for pipes/tubes and accessories

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