

**TATA STEEL**



## **Precision tubes**

Welded tubes from hot- and cold-rolled steel



# PRECISION SOLUTIONS FOR DEMANDING APPLICATIONS

Tubes that create advantage



### Serving demanding markets

Tata Steel is Europe's second largest steel producer. We serve demanding markets worldwide, including automotive, construction, engineering and packaging.

To meet your demand for quality, we continuously invest in our manufacturing capabilities. Our comprehensive range of steel products includes flat, construction and tube products.

Services to support you, range from customer technical support backed up by world-class research and development facilities, to logistical solutions backed up by a robust network.

### High quality Precision tubes

We serve a variety of demanding applications, from automotive components, heating systems, engineering components, roller conveyance to furniture. Reliable and predictable, our precision solutions are designed to meet your processing needs.

The range of tube designs include round, square, rectangular and special profile tubes. They are characterised by their high surface quality.

Meeting up to the EN 10305-3 and -5 norm; the size ranges from 9 – 165mm and tensile strengths up to 1000 MPa.

### Helping lower TCO in automotive

We offer direct access to a wide range of automotive steels and know-how for specific automotive applications to lower the total cost of ownership (TCO) to help find the preferred balance between weight, performance and cost.

Our wide range of lightweight, durable automotive products include advanced precision tubular steels for headrests, twist beams, chassis structures, instrument panel beams and other components.

They meet the highest automotive standards, delivering stiffness, strength, formability and weldability.

### Engineering applications

Consistent and reliable tubes for applications, like conveyor rolls and a wide variety of engineering applications. We supply tube solutions that precisely meet end market product performance requirements. Our specialist grades are designed to meet your individual processing needs.

### Aesthetic solutions

We have a range of high quality grades for structural solutions that look great - surface finish, formability and performance are all important. Furniture or support structures, like table tennis tables, both need good surface finish for an excellent aesthetic appeal.

Our technical experts can support you to exploit our range of precision tubes and help you maximise your processing efficiency. Weather it is enabling a significant reduction in total cost of ownership for the next generation of components in automotive, or helping furniture designers to find a formable grade with excellent surface finish, let's work together so our products and services can make the difference.



# TECHNICAL SPECIFICATIONS

## Technical delivery condition

Precision tubes are supplied to EN 10305, parts 3 and 5 (depending on product type ordered).

## Steel quality

Precision tubes are produced from either hot-rolled pickled and oiled (S2) or cold-rolled grades (S3):

- Steels for forming conform EN 10111 and EN 10130
- Structural grades conform EN 10025-2
- High-strength low-alloy steels conform EN 10149 and EN 10268
- Advanced high-strength steels conform EN 10338
- Boron alloyed steels for temper-quenching
- Tata Steel's direct-rolled Ymagine® grades

Depending on customer specific requirements a careful selection of the steel grade is made.

## Size range capability

Please refer to page 6-7.

## Tolerances

Tubes are supplied with standard tolerances according to EN 10305, parts 3 and 5, but customer specific tolerances can be agreed.

## Profiles

The standard profiles are round and rectangular, but other cross sections are also possible.

## Heat treatment

Depending on size, round tubes can be heat treated and delivered in either +A or +N condition.

## Lengths

- Standard from 5–7m (-0/+50mm on length tolerances as standard)
- Other lengths available on request
- Fix lengths also available

## Bundles

- Round tubes supplied in hexagonal bundles, profiles in rectangular bundles
- Customer-specific packing is possible

## Surface finish

Depending on size, tubes from cold-rolled grades (S3) are available with a specific surface roughness.

## Rust protection

All tubes are protected against rust by preservation oil.

## Coating

Tubes can be supplied with an in-line zinc coating applied (see Contiflo brochure).

## Putting the customer first

Different qualities, dimensions and cross sections may be available upon request.

## Additional technical support

For additional confirmation of size range and technical delivery conditions, we have a team of technical experts available to help.

**Please contact us to discuss your requirements in full.**

	Applications		Dimension [mm]	Thickness [mm]
Automotive market	Seating & Interior	Head restraint	10 - 16	1.0 - 2.0
		Frame and structure	10 - 40	1.0 - 3.0
		Interior IP-beam Fuel pipe	30 - 75	1.0 - 3.0
	Powertrain	Propeller shaft	40 - 124	2.0 - 6.0
	Chassis & Suspension	Engine cradle Subframe Twist beam Control arm	50 - 121	2.0 - 4.0
General industry	Conveyor rolls		40 - 90	1.5 - 3.0
	Furniture		20 - 60	1.0 - 3.0
	Leisure		20 - 60	1.0 - 3.0



# SIZE RANGE

An extensive offering of sizes and profiles

## Generic squares

OD (mm)	Thickness (mm)							
	0.8 - 1.0	1.0 - 1.5	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0	3.0 - 4.0	4.0 - 5.0	5.0 - 6.3
15.00 x 15.00		•	•					
20.00 x 20.00		•	•					
25.00 x 25.00		•	•	•	•			
30.00 x 30.00		•	•	•	•			
35.00 x 35.00			•	•	•			
40.00 x 40.00			•	•	•			
45.00 x 45.00			•	•	•			
50.00 x 50.00			•	•	•			

## Generic rectangles

OD (mm)	Thickness (mm)							
	0.8 - 1.0	1.0 - 1.5	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0	3.0 - 4.0	4.0 - 5.0	5.0 - 6.3
20.00 x 10.00		•	•					
20.00 x 15.00		•	•					
25.00 x 15.00		•	•					
30.00 x 10.00		•	•					
30.00 x 15.00		•	•					
30.00 x 20.00		•	•					
40.00 x 15.00		•	•					
30.00 x 25.00		•	•					
35.00 x 20.00			•	•	•			
40.00 x 20.00			•	•	•			
40.00 x 30.00			•	•	•			
45.00 x 25.00			•	•	•			
50.00 x 20.00			•	•	•			
50.00 x 25.00			•	•	•			
50.00 x 30.00			•	•	•			
60.00 x 20.00			•	•	•			
50.00 x 40.00			•	•	•			
60.00 x 30.00			•	•	•			
60.00 x 40.00			•	•	•			
70.00 x 30.00			•	•	•			
60.00 x 50.00			•	•	•			
70.00 x 40.00			•	•	•			
80.00 x 30.00			•	•	•			

## Generic flat ovals

OD (mm)	Thickness (mm)							
	0.8 - 1.0	1.0 - 1.5	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0	3.0 - 4.0	4.0 - 5.0	5.0 - 6.3
31.00 x 16.00		•	•					
36.00 x 16.00		•	•					
38.00 x 20.00		•	•					

Note: sizes shown are for guidance only. Some sizes may not be standard or covered by regular manufacturing cycles. Please contact us for confirmation of available sizes, order quantities, lengths and finishing options.

Other sizes may be available upon request. We are always willing to discuss customer requirements.

Generic rounds

OD (mm)	Thickness (mm)							
	0.8 - 1.0	1.0 - 1.5	1.5 - 2.0	2.0 - 2.5	2.5 - 3.0	3.0 - 4.0	4.0 - 5.0	5.0 - 6.3
9.00								
10.00		•						
11.00		•						
11.90		•						
11.95		•	•					
12.00		•	•					
12.60		•	•					
12.65		•	•					
12.70		•	•					
13.00		•	•					
13.90		•	•	•				
13.93		•	•	•				
14.00		•	•	•				
15.00		•	•	•				
15.80		•	•	•				
16.00		•	•	•				
18.00		•	•	•				
19.00		•	•	•				
20.00		•	•	•				
22.00		•	•	•				
22.15		•	•	•				
22.20		•	•	•				
22.80		•	•	•				
23.00		•	•	•				
23.50		•	•	•				
24.00		•	•	•				
25.00		•	•	•	•			
25.40		•	•	•	•			
26.00		•	•	•	•			
28.00		•	•	•	•			
28.60		•	•	•	•			
29.00		•	•	•	•			
30.00		•	•	•	•			
32.00		•	•	•	•			
33.00		•	•	•	•			
35.00		•	•	•	•			
38.00		•	•	•	•			
40.00		•	•	•	•			
42.00			•	•	•			
44.50			•	•	•			
45.00			•	•	•			
48.00			•	•	•	•	•	
48.30			•	•	•	•	•	
50.00			•	•	•	•	•	
52.50			•	•	•	•	•	
54.00			•	•	•	•	•	
55.00			•	•	•	•	•	
57.00			•	•	•	•	•	
60.00			•	•	•	•	•	
60.30			•	•	•	•	•	
65.00				•	•	•	•	
70.00				•	•	•	•	
76.10				•	•	•	•	
80.00				•	•	•	•	
88.90				•	•	•	•	
90.00				•	•	•	•	
98.00				•	•	•	•	
100.00				•	•	•	•	
108.00				•	•	•	•	
114.30					•	•	•	
121.00					•	•	•	
124.00					•	•	•	
130.00					•	•	•	
135.00					•	•	•	
146.00						•	•	
156.00								
158.00								

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