



# VTS<sup>®</sup>-edgeTubes

Seamless squaring the circle

VTS<sup>®</sup>-edgeTubes



## PRODUCTION, R&D AND SALES LOCATIONS



## PERFORMANCE IN TUBULARS

Our world is based on high tech seamless pipes that can withstand the toughest conditions, day in, day out. We promise highest performance based on the core values customization, innovation, sustainability and responsibility.



CUSTOMIZATION



INNOVATION



SUSTAINABILITY



RESPONSIBILITY



Find your closest contact:  
[www.voestalpine.com/tubulars/en/Contact/sales/](http://www.voestalpine.com/tubulars/en/Contact/sales/)



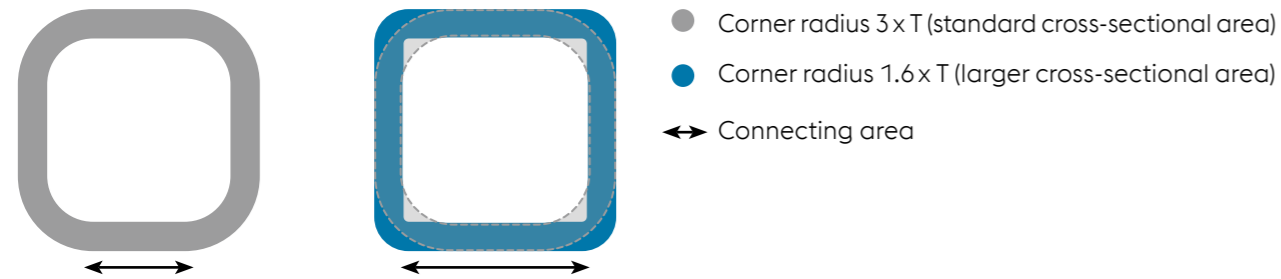
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# VTS®-edgeTubes

To cover an even larger portfolio of tubular products, the range of seamless round tubes has been supplemented by seamless square and rectangular Hollow Sections from voestalpine Tubulars at the Kindberg (Austria) site.

voestalpine Tubulars has many years of experience in the production of seamless round tubes and is thus able to produce hot-rolled seamless square and rectangular Hollow Sections up to 25 mm wall thickness.

## DESIGN CHARACTERISTICS



## PRODUCT CHARACTERISTICS

### WALL THICKNESS

- » up to 25 mm (1 inch)

### TIGHTER CORNER RADIUS

- »  $R_o \leq 1.6 \times T$   
 ( $R_o$  up to  $\leq 1 \times T$  depending on dimension & wall thickness upon request)

### DEFINED DESIGN OF OUTSIDE CORNER

- » due to hot-rolling process

### LARGER CROSS-SECTIONAL AREA

- » due to tighter corner radius

### EXCELLENT WELDABILITY

- » less welding filler required for further processing

### SUPERIOR LOAD-BEARING CAPACITY

- » larger spans possible

### NO WELD SEAM

- » due to seamless pipe production

### LOW RESIDUAL STRESS

- » due to homogeneous structure



## CUSTOMER BENEFITS

- » Geometric advantages
- » Consistent and reliable mechanical properties
- » Superior load-bearing capacity
- » No weld seam
- » Higher vibration resistance
- » Excellent surface structure
- » Weight saving due to higher and high-strength steel grades\*
- » Customized intermediate dimensions
- » Wide range of applications
- » Great opportunities for further processing
- » Low residual stress

*WEIGHT SAVING DUE TO HIGH-STRENGTH STEEL GRADES						
Steel Grade	S355	S460	VTS-500	S690	S770	S890
Dimension [mm]	120x120					
Wall thickness [mm]	16.0	13.66	12.97	10.68	9.94	9.10
Mass [kg/m]	50.09	43.23	40.94	34.16	31.79	29.12
Mass reduction		-13.7%	-18.3%	-31.8%	-36.6%	-41.9%

# PRODUCT SOLUTIONS ACC. TO DIN EN

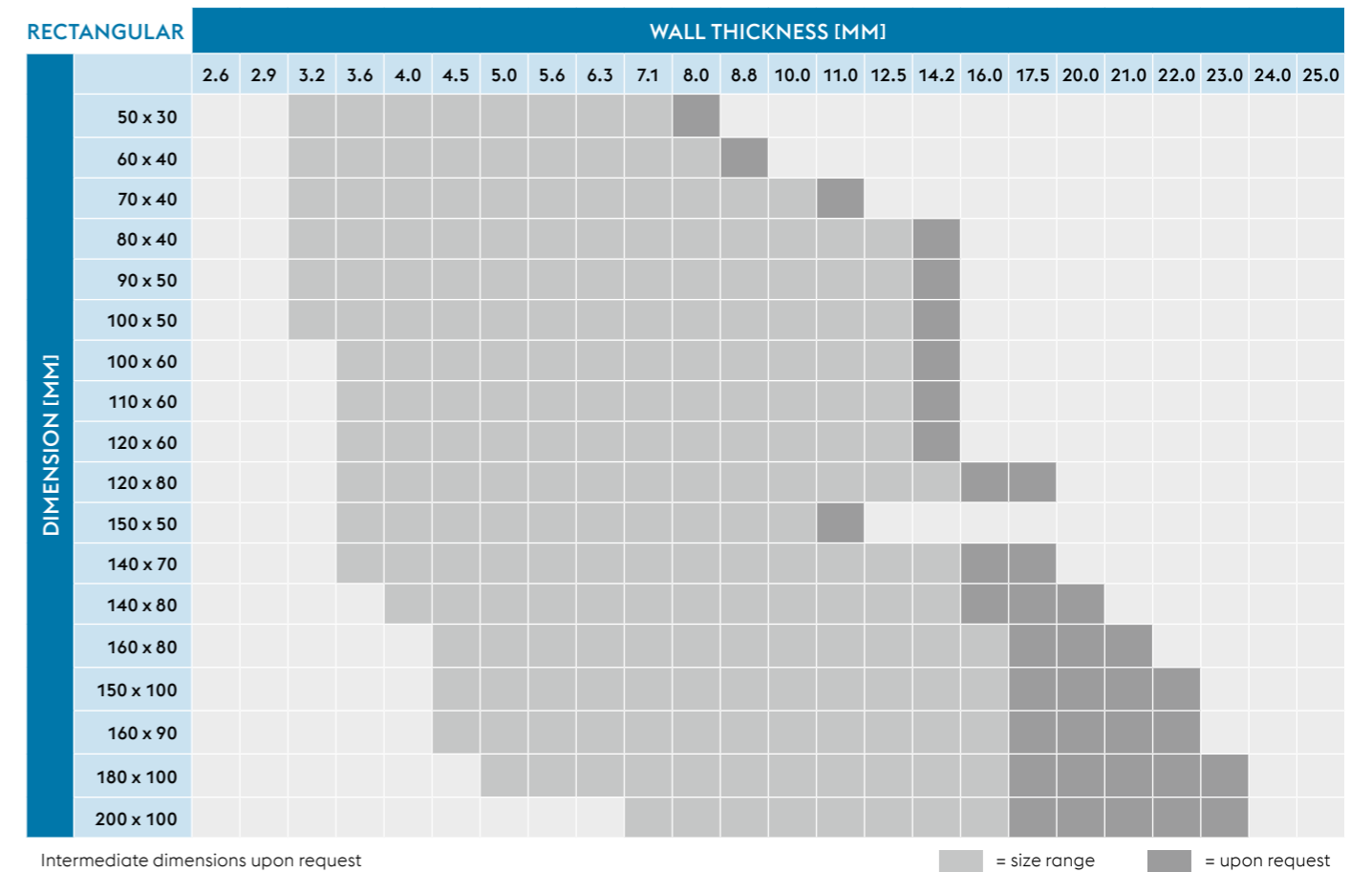
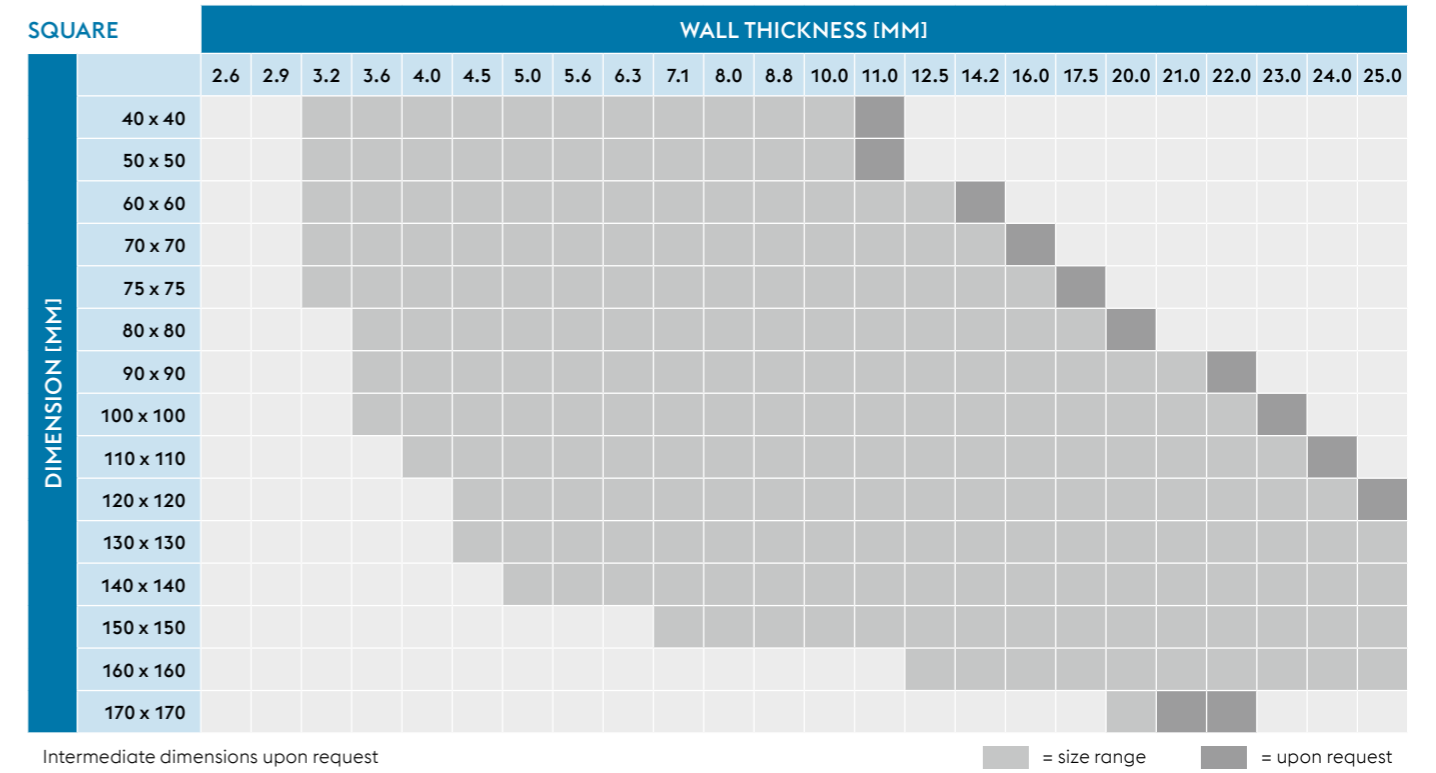
## TECHNICAL DATA

PROGRAM	
Square	40 x 40 mm to 170 x 170 mm
Rectangular	50 x 30 mm to 200 x 100 mm
Wall thickness	up to 25 mm (> 25 mm upon request)
Corner radius	$R_c \leq 1.6 \times T$ (tighter radius up to $\leq 1 \times T$ depending on dimension & wall thickness upon request)
Lengths	5,000 mm to 14,000 mm
Steel grades	S235 to S890 (tailor-made customer specifications upon request)

## DIN EN APPLICATIONS

DIN EN 10210	
Hot-finished Hollow Sections for structural steelwork made of unalloyed structural steels	
DIN EN 10210-1	Technical delivery conditions
DIN EN 10210-2	Tolerances, dimensions and sectional properties
DIN EN 10210-3	Technical delivery conditions for high-strength and weather resistant steels
CE marking in compliance with Regulation (EU) No 305/2011	
Construction Products Regulation in compliance with Regulation (EU) No 305/2011	
Product solutions according to DIN EN 10225 for offshore constructions upon request.	

## PRODUCT RANGE DIN EN

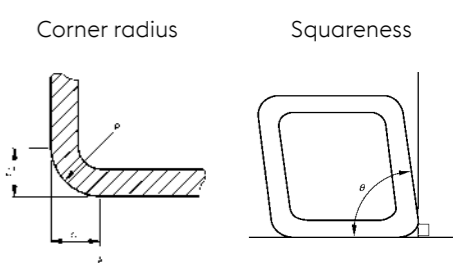
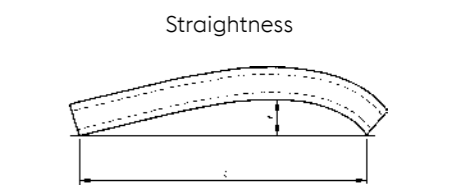
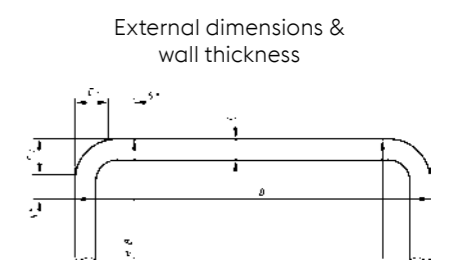




# QUALITY TESTING METHODS

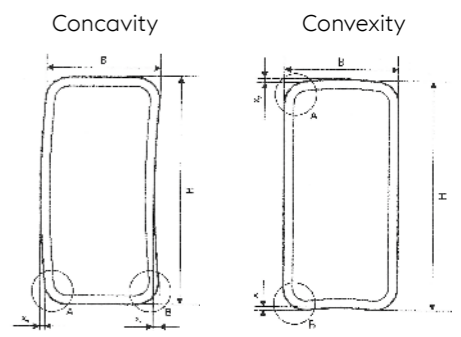
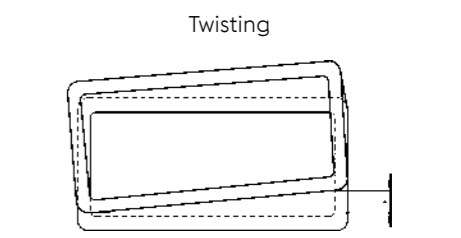
## STANDARD QUALITY TESTING METHODS ACCORDING TO DIN EN

Visual inspection	Chemical analysis	Destructive testing
» Surface	» Melt analysis	» Tensile test
» Straightness	» Optional piece analysis	» Impact test according to standard
» Twisting		
» Height/width/length		
» Corner radius		
» Squareness		
» Curvature		
» Concavity/convexity		



## IN ADDITION TO THE STANDARD QUALITY TESTING METHODS

Automatic geometry measurement	Destructive testing	Accredited testing center
» In hot and cold condition	» Hardness testing on request	
» Measurement over the entire pipe length		
» Surface		
» Straightness		
» Twisting		
» Height/width/length		
» Corner radius		
» Squareness		
» Curvature		
» Concavity/convexity		



# PRODUCT SOLUTIONS ACC. TO ASTM



## TECHNICAL DATA

START PROGRAM	
<b>Square</b>	1 ½ x 1 ½ inch to 6 ⅝ x 6 ⅝ inch (38.1 x 38.1 mm to 168.3 x 168.3 mm)
<b>Rectangular</b>	2 x 2 ½ inch to 8 x 4 inch (50.8 x 38.1 mm to 203.2 x 101.6 mm)
<b>Wall thickness</b>	up to 1 inch / 25.40 mm (> 1 inch / 25.40 mm upon request)
<b>Corner radius</b>	$R_c \leq 1.6 \times T$ (tighter radius up to $\leq 1 \times T$ depending on dimension & wall thickness upon request)
<b>Lengths</b>	16 to 46 ft (5,000 mm to 14,000 mm)
<b>Steel grades</b>	Grade A, B, C

## ASTM APPLICATIONS

ASTM A501/A501M	
This standard is issued for hot-formed seamless carbon steel structural tubing.	
QUALITY TESTING METHODS acc. to ASTM A501/A501M	

## PRODUCT RANGE ASTM

SQUARE		WALL THICKNESS													
DIMENSION	inch	mm	0.125	0.133	0.141	0.154	0.156	0.188	0.250	0.312	0.375	0.500	0.625	0.750	1.000
			3.18	3.38	3.58	3.91	3.96	4.78	6.35	7.92	9.53	12.70	15.88	19.05	25.40
1 ½ x 1 ½	38.1 x 38.1														
1 ¾ x 1 ¾	44.5 x 44.5														
2 x 2	50.8 x 50.8														
2 ½ x 2 ½	63.5 x 63.5														
3 x 3	76.2 x 76.2														
3 ½ x 3 ½	88.9 x 88.9														
4 x 4	101.6 x 101.6														
5 x 5	127.0 x 127.0														
6 x 6	152.4 x 152.4														
6 ⅝ x 6 ⅝	168.3 x 168.3														

Intermediate dimensions upon request

Legend:  = size range     = upon request

## PRODUCT RANGE ASTM

RECTANGULAR		WALL THICKNESS													
DIMENSION	inch	mm	0.125	0.133	0.141	0.154	0.156	0.188	0.250	0.312	0.375	0.500	0.625	0.750	1.000
			3.18	3.38	3.58	3.91	3.96	4.78	6.35	7.92	9.53	12.70	15.88	19.05	25.40
2 x 1 ½	50.8 x 38.1														
2 ½ x 1 ½	63.5 x 38.1														
3 x 1 ½	76.2 x 38.1														
3 x 2	76.2 x 50.8														
3 ½ x 2 ½	88.9 x 63.5														
4 x 2	101.6 x 50.8														
4 x 2 ½	101.6 x 63.5														
4 x 3	101.6 x 76.2														
4 ½ x 2	114.3 x 50.8														
4 ½ x 2 ½	114.3 x 63.5														
4 ½ x 3	114.3 x 76.2														
4 ½ x 3 ½	114.3 x 88.9														
4 ½ x 4	114.3 x 101.6														
5 x 2	127.0 x 50.8														
5 x 2 ½	127.0 x 63.5														
5 x 3	127.0 x 76.2														
5 x 3 ½	127.0 x 88.9														
5 x 4	127.0 x 101.6														
6 x 2	152.4 x 50.8														
6 x 2 ½	152.4 x 63.5														
6 x 3	152.4 x 76.2														
6 x 3 ½	152.4 x 88.9														
6 x 4	152.4 x 101.6														
7 x 4	177.8 x 101.6														
7 x 4 ½	177.8 x 114.3														
7 x 5	177.8 x 127.0														
7 x 6	177.8 x 152.4														
8 x 4	203.2 x 101.6														

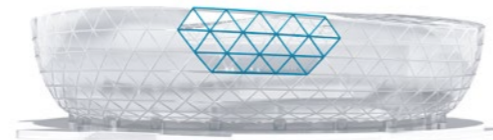
Intermediate dimensions upon request

Legend:  = size range     = upon request

# VTS®-edgeTubes

## FIELDS OF APPLICATIONS

Hot-rolled seamless square and rectangular pipes are primarily used in Agriculture, Steel Constructions, Mechanical Engineering and Mobility.



### AGRICULTURE

- » Self-propelled machines, e.g.:
  - > machines for crop protection and forestry technology
  - > harvester
- » Cultivation machinery, e.g.:
  - > machines for soil cultivation, such as plows, disk harrows or grubber
  - > seeding machinery
- » Tractors, e.g.:
  - > Roll-Over-Protective-Structure (ROPS)

### CONSTRUCTIONS

- » Airports & sport stadiums
- » Buildings, halls and roof constructions
- » Bridge buildings
- » Rides (rollercoaster)
- » Offshore constructions (jack-up rigs, platforms)
- » Wind energy (offshore, onshore)
- » Support structures for large-scale solar and photovoltaic systems

### MECHANICAL ENGINEERING

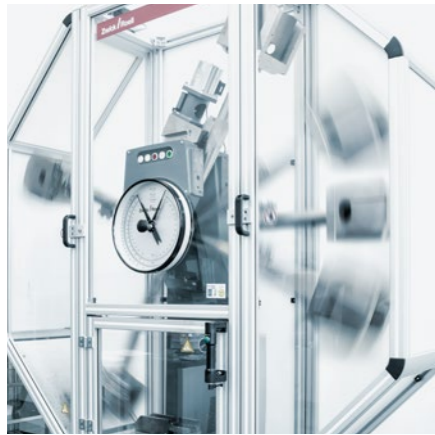
- » General Mechanical Engineering, e.g.:
  - > in the automation
  - > for civil engineering
  - > in the Yellow Goods segment
- » Crane construction, e.g.:
  - > booms for tower cranes and mobile cranes
  - > for maritime cranes, such as ship or harbor cranes
- » Transport systems
- » Lifting platforms

### MOBILITY

- » Non-driven axles, e.g. for trailer, caravans and busses
- » Driven axles, e.g. for trucks
- » General frame parts and frame structures, e.g. for trucks, trailer, wagons, trams and busses
- » ROPS and FOPS, e.g. for Yellow Goods and commercial vehicles
- » Bogie frames for rail vehicles
- » Steel structures for ship building

# WHY voestalpine TUBULARS?

Support from material and product selection, in-house material and product development, to final product and installation consulting from one source.



PRODUCT DEVELOPMENT



PROCESS DEVELOPMENT



PRODUCT SELECTION

## TESTING FACILITIES

Support from material and product selection, in-house material and product development, to final product and installation consulting from one source.

NEW PRODUCT DEVELOPMENT  
REQUEST FROM OUR CUSTOMER



METLAB



MATERIAL COMPOSITION

TECHMET



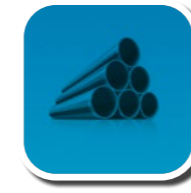
TUBULARS TESTING FACILITIES



TESTING & FINE TUNING  
TOGETHER WITH METLAB & TECHMET

FINAL TESTING &  
APPROVAL OF PRODUCT

## SERVICES



myTubulars

**myTubulars APP**  
CONVERSION CALCULATOR,  
CONTACT FINDER AND "NEW" NOTIFICATION

The myTubulars App offers new possibilities to take a look into the world of voestalpine Tubulars. Explore the great features like the Virtual Reality Tour through our mill, the conversion tool for numerous important units or our practical Contact Finder. As an additional feature, you can see when a product catalog or certificate is updated (marked as "new").

myTubulars is available for all iOS and Android devices for free in the App stores.

GET THE APP!



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on social Media!

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**voestalpine**  
ONE STEP AHEAD.