



# VTS<sup>®</sup>-edgeTubes

Seamless squaring the circle

VTS<sup>®</sup>-edgeTubes





# 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

# PRODUCTION, R&D, SALES LOCATIONS



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



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# VTS<sup>®</sup>-edgeTubes

To cover an even larger portfolio of tubular products, the range of seamless round tubes has now 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 will thus be able to produce hot-rolled seamless square and rectangular hollow sections up to 20 mm wall thickness.

## TECHNICAL DATA

START PROGRAM	
<b>Square</b>	40x40 mm to 170x170 mm
<b>Rectangular</b>	50x30 mm to 200x100 mm
<b>Wall thickness</b>	up to 20 mm (> 20 mm on request)
<b>Corner radius</b>	$R_a \leq 1,6T$
<b>Lengths</b>	6.000 mm to 14.000 mm
<b>Standards</b>	EN 10210
<b>Steel grades</b>	S235 to S890 (further steel grades on request)

## PRODUCT SOLUTIONS

ACCORDING TO EN	
<b>EN 10210</b>	Hot-finished hollow sections for structural steelwork made of unalloyed structural steels <ul style="list-style-type: none"><li>» <b>EN 10210-1</b> – unalloyed structural steels and fine-grained structural steels (up to S460)</li><li>» <b>EN 10210-2</b> – Limit dimensions, dimensions and static values</li><li>» <b>EN 10210-3</b> – Higher strength steels (S460 to S960)</li></ul>
<b>CE marking in accordance with Directive 93/66/EEC</b>	
<b>EU Construction Products Directive (89/106/EEC)</b>	



# PRODUCT RANGE

		WALL THICKNESS [MM]																			
SQUARE	RECTANGLE	3.20	3.60	4.00	4.50	5.00	5.60	6.30	7.10	8.00	8.80	10.00	11.00	12.50	14.20	16.00	17.50	20.00			
[mm x mm]																					
OUTSIDE DIAMETER	40 x 40	50 x 30																			
		60 x 40																			
	50 x 50	70 x 40																			
	60 x 60	80 x 40																			
	70 x 70	90 x 50																			
		100 x 50																			
	80 x 80	100 x 60																			
		110 x 60																			
	90 x 90	120 x 60																			
	100 x 100	120 x 80																			
		140 x 70																			
	110 x 110	140 x 80																			
	120 x 120	160 x 80																			
		150 x 100																			
		160 x 90																			
	140 x 140	180 x 100																			
	150 x 150																				
		200 x 100																			
	160 x 160																				
	170 x 170																				

Intermediate dimensions on request

 = Size range





# DESIGN CHARACTERISTICS



## Larger cross-sectional areas

- Corner radius 3T
- Corner radius 1.6T

# PRODUCT CHARACTERISTICS

## WALL THICKNESS

- » up to 20 mm

## TIGHTER CORNER RADIUS

- » Radius  $\leq 1.6T$

## DEFINED DESIGN OF OUTSIDE CORNER

- » due to seamless hot-rolling process

## LARGER CROSS-SECTIONAL AREAS

- » due to tighter corner radius

## EXCELLENT WELDABILITY

- » less welding filler required

## SUPERIOR LOAD-BEARING CAPACITY

- » larger spans possible

## NO WELD SEAM

- » due to seamless hot-rolling process

## HOMOGENEOUS STRUCTURE






- » due to seamless hot-rolling process



## CUSTOMER BENEFITS

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

### \*WEIGHT SAVING DUE TO HIGH-STRENGTH STEEL GRADES

Steel Grade	S355	S420	S460	S550	S690
VTS®-edgeTubes [mm]	100 x 100				
Wall thickness [mm]	12.5	10	8	6.3	5
Mass [kg/m]	33.0	27.4	22.6	18.2	14.7
					
Change of mass		-17%	-32%	-45%	-55%

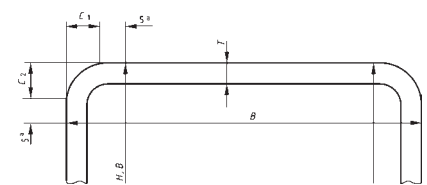


# QUALITY TESTING METHODS

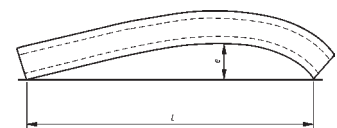
## STANDARD QUALITY TESTING METHODS ACCORDING TO EN

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		

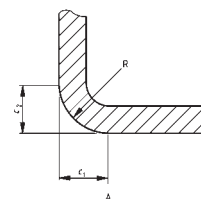
External dimensions & wall thickness



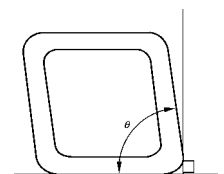
Straightness



Corner radius



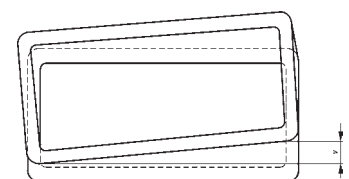
Squareness



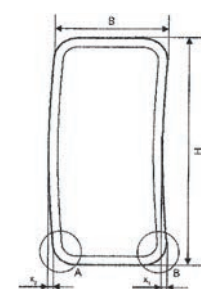
## IN ADDITION TO THE STANDARD QUALITY TESTING METHODS

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		

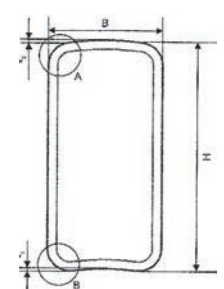
Twisting



Concavity



Convexity



# HOLLOW SECTIONS PRODUCT SOLUTIONS

Hot-rolled seamless square and rectangular pipes are primarily used in agriculture, constructions, mechanical engineering and mobility.



## AGRICULTURE

- » Machinery and equipment for soil cultivation and plant protection
- » Agricultural equipment (harrowers, seed drills...)
- » Roll-Over-Protective-Structure (ROPS)
- » Fall-Over-Protective-Structure (FOPS)



## CONSTRUCTIONS

- » Support structure for large-scale solar and photovoltaic systems
- » Wind energy (Offshore, Onshore)
- » Rides (rollercoaster...)
- » Building, hall and roof construction
- » Bridge building
- » Airports & Sport stadiums
- » Jack-up Rigs (wind turbines, ships, platforms)



## MECHANICAL ENGINEERING

- » General mechanical engineering in various fields of application
- » Crane construction (booms for tower cranes, mobile cranes and ship cranes)
- » Transport systems
- » Lifting platforms
- » Ski lifts



## MOBILITY

- » Frame parts
- » Cabin/roll over protection
- » Trailers (axle tubes, support structure, etc.)
- » Base carrier for trailers
- » Fall-Over-Protective-Structure (FOPS)

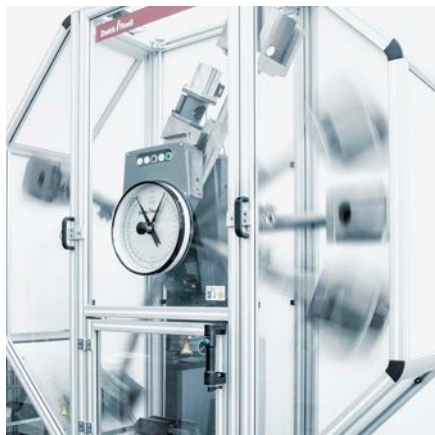






# WHY TUBULARS?

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



VTS® - edgeTubes



# 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!



Follow us  
on social Media!

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**voestalpine**

ONE STEP AHEAD.