



VTS[®]-edgeTubes

Seamless squaring the circle

VTS[®]-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

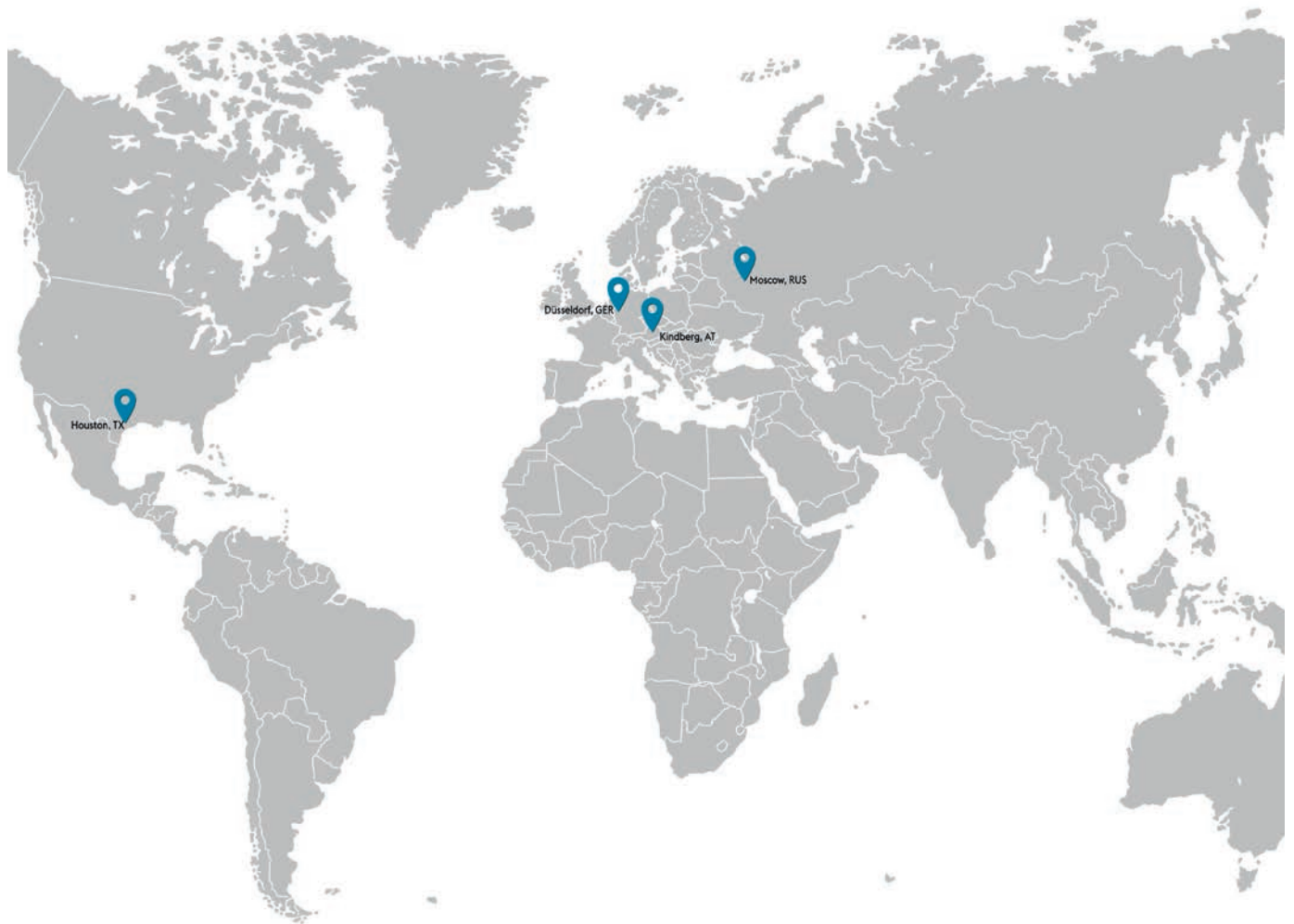


SUSTAINABILITY



RESPONSIBILITY

PRODUCTION, R&D, SALES LOCATIONS



Find your closest contact:
www.voestalpine.com/tubulars/en/Contact/sales/



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VTS[®]-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 is thus able to produce hot-rolled seamless square and rectangular hollow sections up to 20 mm wall thickness.

TECHNICAL DATA

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

PRODUCT SOLUTIONS

| ACCORDING TO EN | |
|--|--|
| EN 10210 | Hot-finished hollow sections for structural steelwork made of unalloyed structural steels <ul style="list-style-type: none">» EN 10210-1 – Unalloyed structural steels and fine-grained structural steels (up to S460)» EN 10210-2 – Limit dimensions, dimensions and static values» EN 10210-3 – Higher strength steels (S460 to S960) |
| CE marking in accordance with Regulation (EU) No 305/2011 | |

Product solutions according to ASTM on request.

PRODUCT RANGE

SQUARE

| | | WALL THICKNESS DIMENSION [MM] | | | | | | | | | | | | | | | | | |
|----------------|-----------|-------------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--|
| | | 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 | |
| DIMENSION [MM] | 40 x 40 | | | | | | | | | | | | | | | | | | |
| | 50 x 50 | | | | | | | | | | | | | | | | | | |
| | 60 x 60 | | | | | | | | | | | | | | | | | | |
| | 70 x 70 | | | | | | | | | | | | | | | | | | |
| | 75 x 75 | | | | | | | | | | | | | | | | | | |
| | 80 x 80 | | | | | | | | | | | | | | | | | | |
| | 90 x 90 | | | | | | | | | | | | | | | | | | |
| | 100 x 100 | | | | | | | | | | | | | | | | | | |
| | 110 x 110 | | | | | | | | | | | | | | | | | | |
| | 120 x 120 | | | | | | | | | | | | | | | | | | |
| | 130 x 130 | | | | | | | | | | | | | | | | | | |
| | 140 x 140 | | | | | | | | | | | | | | | | | | |
| | 150 x 150 | | | | | | | | | | | | | | | | | | |
| | 160 x 160 | | | | | | | | | | | | | | | | | | |
| | 170 x 170 | | | | | | | | | | | | | | | | | | |

Intermediate dimensions on request

Legend: = size range = on request

RECTANGULAR

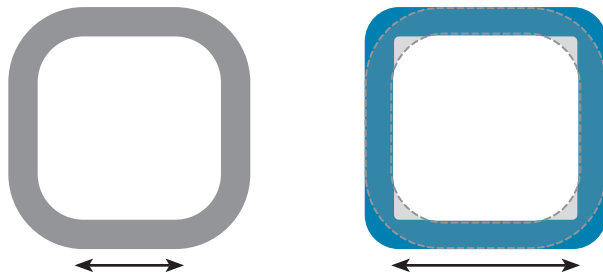
| | | WALL THICKNESS DIMENSION [MM] | | | | | | | | | | | | | | | | | |
|----------------|-----------|-------------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--|
| | | 3.20 | 3.60 | 4.00 | 4.50 | 5.00 | 5.60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

Intermediate dimensions on request

Legend: = size range = on request



DESIGN CHARACTERISTICS



- Corner radius 3 T (standard cross-sectional area)
- Corner radius 1.6 T (larger cross-sectional area)
- ↔ Connecting area

PRODUCT CHARACTERISTICS

WALL THICKNESS

- » up to 20 mm

TIGHTER CORNER RADIUS

- » radius $\leq 1.6 T$
(special Ra requirements on request)

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







LOW RESIDUAL STRESS

- » due to homogeneous structure



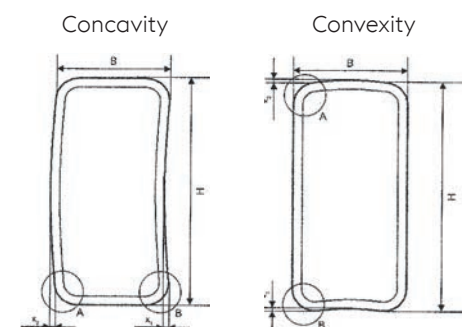
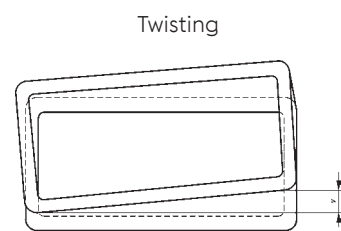
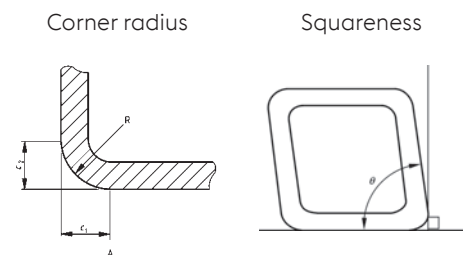
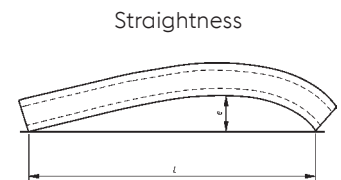
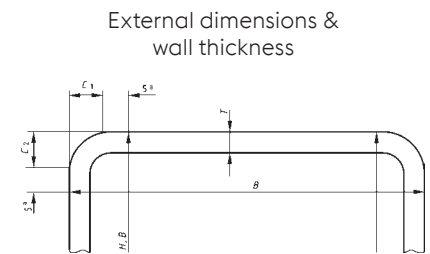
CUSTOMER BENEFITS

- » Geometric advantages
- » Consistent and reliable mechanical properties
- » Superior load-bearing capacity
- » No weld seam
- » Higher vibration resistance
- » Surface structure
- » Weight saving due to high-strength steel grades*
- » Customised 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% |

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 | | |



| 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 | | |

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
- » Offshore constructions (jack-up rigs, 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



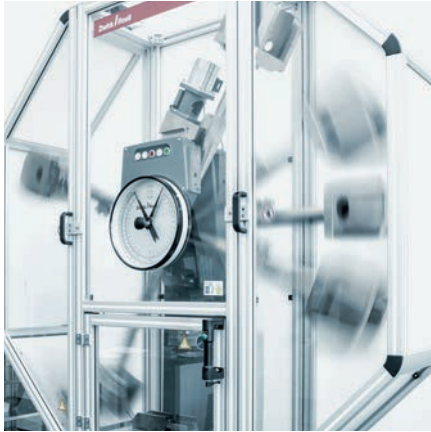
MOBILITY

- » 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!



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voestalpine

ONE STEP AHEAD.