## TATA STEEL



### Forcon® Greenhouse

## Horticulture tubes according to EN 10219

In cooperation with the horticulture sector, we have developed tailored tubes for the use in greenhouses.

Produced with precision and expertise, our Forcon® Greenhouse offer a myriad of benefits for your needs: Dimensional consistency, excellent weldability and suitability for galvanizing, superior surface quality and batch traceability.



Ensuring quality in every piece, the reliable performance of our cold formed welded steel greenhouse horticulture tubes allows you to process with confidence in automated robot production. They are usually supplied in accordance with EN10219, in either S235JRH or S275J0H. However, we can also provide other steel grades such as S355J2H or S500MH. The utilisation of higher strength steel grades can, for example, have a beneficial effect on the durability and longevity of rail systems.

#### **Tolerances**

Dimensional tolerances are to EN 10219.

#### Surface

To save costs for surface treatment during further processing, Forcon® Greenhouse are supplied without preservative oil.

#### **Galvanising suitability**

The steel composition complies with category A according to ISO 14713-2:2020, perfectly suitable for hot dip zinc coating.

#### **CE Marking**

Forcon® Greenhouse are manufactured and CE marked according to EN 10219.

#### Weldability

The welding suitability of Forcon® Greenhouse is excellent due to their low CEV. The conditions for welding cold-formed zones and adjacent material described in EN 1993 / Eurocode 3 are fulfilled for the listed steel grades (e.g. S355J2H).

#### **Weld seam**

The weld seam position is on the wide side of rectangular profiles. Customer-specific positions, such as in the middle or outside the middle of the side, on the small side of the hollow section or a scarfed internal weld bead are possible for various dimensions (subject to minimum order quantities).

#### **Technical Support**

We want you to get the best from our tubes and pipes. Our sales team is always happy to answer your questions on steel selection or available options. And our engineers are available to assist you with the application of our Forcon® Greenhouse tubes for an efficient and sustainable design.

#### **Inspection & Testing**

Depending on the steel grade, Forcon® Greenhouse are subject to non-specific or specific inspection and testing and are supplied with an inspection certificate type 2.2 or 3.1 to EN 10204.

#### **Availability**

Forcon® Greenhouse are available across the size range indicated in the below tables. Minimum order quantities may apply and other sizes or thicknesses may be available – please contact your Tata Steel Nederland Tubes representative for details.

Standard lengths are 6m, 9m, 10m, 12m or 15m, depending on the size and production mill. Special mill lengths from 4.5m up to 20m can be arranged upon request.

#### Sustainability

Steel is strong, durable, versatile, re-usable and most importantly, it is endlessly 100% recyclable without loss of quality. We take sustainability very seriously and as well as being a member of Responsible Steel™, we have BES 6001 certification and Environmental Product Declarations (EPD's) for our Forcon® Greenhouse tubes. To reduce carbon emissions, you can choose from different Zeremis® solutions.

# SIZE RANGE

#### We have tailored the properties of our Forcon® Greenhouse tubes to the specific requirements of the different applications in greenhouses:

Circular tubes are mainly used for radiant heating systems, from distribution tubes in the boiler room to monorail heating and tube rail systems. Manufactured from untreated black steel, each tube undergoes rigorous tightness testing to ensure long-lasting durability, even in the challenging environments. The result: consistent, high-quality performance you can rely on. The available dimensions shown in the enclosed table are matched to suit this specific application, ensuring optimal fit and performance throughout the system.

#### Forcon® Greenhouse

Circular hollow sections (CHS) according to EN 10219, extra tested to ensure tightness

mm	2.0	2.25	2.5	2.6	2.75	2.9	3.0	3.2	4.0
31.8									
38.0									
44.5									
51.0									
57.0									
60.3									
63.5									
70.0									
76.1									
82.5									
88.9									
101.6									
108.0									
114.3									
121.0									
127.0									
133.0									
139.7									
152.4									
159.0									
168.3									
193.7									
219.1									
273.0									

These dimensions are available on request (depending on steel grade and minimum order quantity)

Specific dimensions for the use in greenhouses.

For information on other available sizes, please refer to our specific Forcon® datasheets for each steel grade.

In greenhouse construction, square or rectangular structural hollow section steel tubes are frequently used due to their strength, versatility and closed cross section. These tubes are essential components in the fabrication of columns, posts, trusses, beams, and braces - delivering reliable performance in all critical load-bearing and support elements. A variety of steel grades are available to meet different requirements, ensuring optimal solutions that align with the design specifications of modern structures. The dimensions tailored to this application in greenhouse construction are shown in the enclosed table.

#### Forcon® Greenhouse

Square hollow sections (SHS) and rectangular hollow sections (RHS) according to EN 10219

mm	2.0	3.0	4.0	5.0
25/25	2.0	5.0	4.0	3.0
40/40				
50/25				
50/30				
50/50				
60/30				
60/40				
70/40				
80/40				
80/50				
80/60				
100/50				
120/50				
120/60				
140/60				
140/80				
160/60				
160/80				
160/160				
200/80				
200/100				

These dimensions are available on request (depending on steel grade and minimum order quantity)

Specific dimensions for the use in greenhouses.

For information on other available sizes, please refer to our specific Forcon® datasheets for each steel grade.

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