

Technical Data Sheet
TDS-06-02

Barofor® Square System (polyester coated) Panels, Posts, Accessories

1 Scope

This Technical Data Sheet specifies the requirements for the Barofor® Square System.

The complete system exists of:

- Panels
- Posts
- Accessories such as fixation system and posts caps.

Panels and posts are made out of steel, which is galvanized and subsequently polyester coated to assure an excellent corrosion resistance.

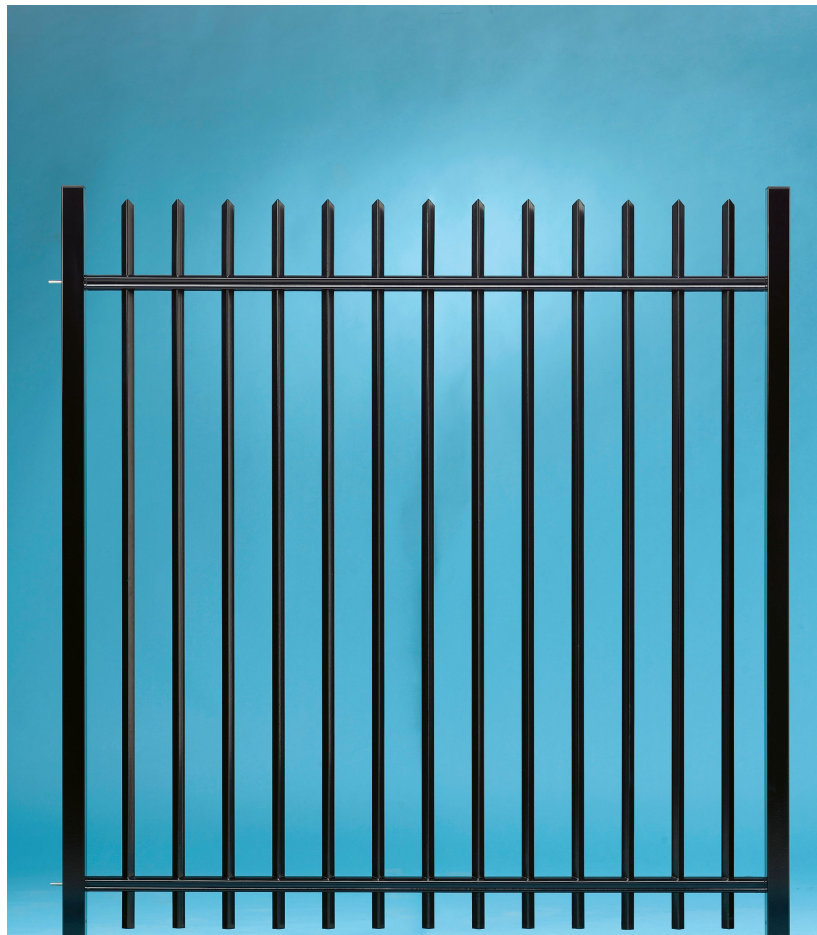


Figure 1: Barofor Square Posts & Panel with accessories

Page : 1 / 9

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Barofor[®] Square System (polyester coated)
Panels, Posts, Accessories**1.1 Normative References**

- EN 10326: Continuously hot-dip coated strip and sheet of structural steels - Technical delivery conditions
- EN 10327: Continuously hot-dip coated strip and sheet of low carbon steels for cold forming - Technical delivery conditions.
- EN 10305-5: Steel tubes for precision applications – Technical delivery conditions – Part5: Welded and cold sized square and rectangular tubes.
- EN 10025-2: Hot rolled products of structural steels – Part 2: Technical delivery conditions for non-alloy structural steels.
- ISO 1461: Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods.
- EN 1179: Zinc and zinc alloys - primary zinc
- EN 13438: Powder organic coatings for galvanized steel products for construction purposes
- NEN 5254: Industrial application of organic coatings on hot-dip zinc coated or sherardized products (duplex system).
- ISO 9227: Corrosion tests in artificial atmospheres; salt spray tests

2 Raw materials**2.1 Steel**

Steel grade: S235 as in EN 10027-1, which corresponds with the designation St 37, a designation previously used in some countries.

Chemical composition: see table 1 below.

| Element | % |
|---------|------------|
| C | ≤ 0,17 |
| Mn | max. 1.40 |
| P | max. 0.035 |
| S | max. 0.035 |

Technical Data Sheet
TDS-06-02

Barofor® Square System (polyester coated)
Panels, Posts, Accessories

Mechanical values of the steel are given in Table 2:

| Table 2: Mechanical Values | |
|-----------------------------------|---------------------------|
| Yield strength: | Tensile strength |
| > 235 N/mm ² | 340-510 N/mm ² |

2.2 Zinc

The zinc used for hot dip galvanizing, shall be in accordance with EN 1179.

2.3 Sendzimir Tubes

Continuously hot dip galvanized steel (Sendzimir) is in accordance with EN 10326 designation S250, or EN 10327 designation DX51 with minimum yield strength 235 N/mm². Zinc coating in accordance with Z275.

Chemical composition: see table 3

| Table 3 : Chemical composition | |
|---------------------------------------|------------|
| <u>Element</u> | <u>%</u> |
| C | ≤ 0,20 |
| Si | max. 0.60% |
| Mn | max. 1.70% |
| P | max. 0.10 |
| S | max. 0,045 |

2.4 Polyester

The polyester powder used for the organic coating is free from lead and cadmium.

Page : 3 / 9
DATE : 25/03/2009
Replaces edition : 14/12/2007

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Panels, Posts, Accessories

3 Panel

The Barofor® Panel is made out of steel tubes (steel specification: see § 2.1.), welded together, and subsequently hot dip galvanized and polyester coated. See figure 2.

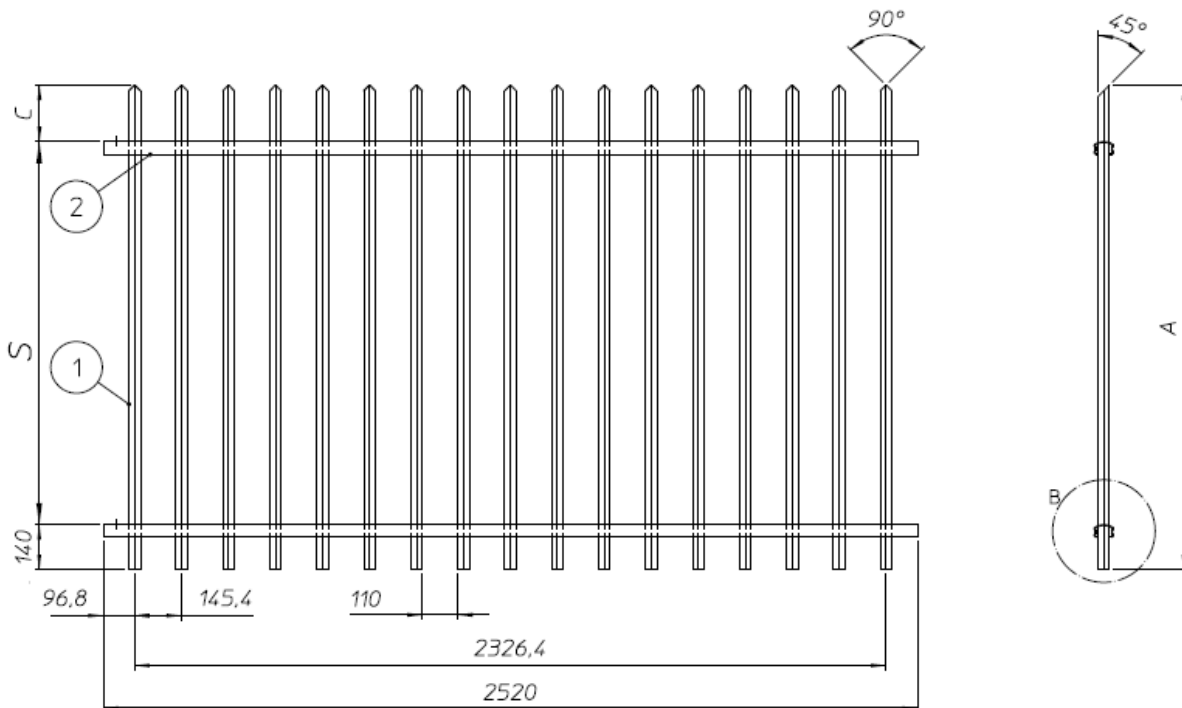


Figure 2: Panel Barofor Square

Barofor® Square System (polyester coated)
Panels, Posts, Accessories

3.1 Dimensions and Tolerances

See figure 2.

Vertical Square Tubes:

(1) in figure 2.

Section of the vertical square tubes: 25,40x25,40 mm.

Material thickness of the vertical square tubes: 1,5 mm ± 0,15 mm

The tubes are cut at one side under 45°. See figure 2.

Horizontal rounded profile:

(2) in figure 2. The dimensions of the section of the horizontal profile are given in figure 3.

Material thickness: 2,00 mm. Tolerance on material thickness: ± 0,20 mm.

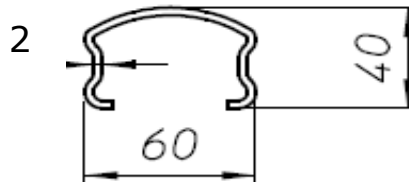


Figure 3: Section of the horizontal profile

Other dimensions and tolerances: see corresponding technical drawings.

Overview of standard range: See table 4.

| Table 4: Range of Barofor® Square Panels | | | | |
|---|-----------------|------------------|------------------|-------------------|
| Height in mm | A in mm (fig.2) | S in mm (fig. 2) | C in mm (fig. 2) | Height post in mm |
| 1000 | 950 | 660 | 150 | 1500 |
| 1200 | 1150 | 860 | 150 | 1700 |
| 1500 | 1450 | 1160 | 150 | 2100 |
| 1800 | 1750 | 1410 | 200 | 2400 |
| 2000 | 1950 | 1610 | 200 | 2600 |
| 2400 | 2350 | 2010 | 200 | 3200 |

Other panel-heights are available on request.

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| Page : 5 / 9 DATE : 25/03/2009 Replaces edition : 14/12/2007 | CERTIFIED BY : Werner Frans Group Quality Department |
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Technical Data Sheet
TDS-06-02

Barofo[®] Square System (polyester coated) **Panels, Posts, Accessories**

3.2 Metallic Coating

The Barofo[®] panels are hot dip galvanized after welding, in accordance with ISO 1461.
Minimum local zinc coating thickness: 45 µm. Average coating thickness is minimum 55 µm.

3.3 Polyester coating

Colour:

Green Ral 6005, other colours on request.

Thickness of the coating:

Minimum 60 µm. Inside of the horizontal rounded profile, the thickness can be lower.

Adhesion Test:

Make two scratches by means of a hard metal pointed graving tool through the coating and intersecting at an angle of $30^\circ \pm 5^\circ$. Lift a 30° peak with the point of the knife.

The coating shall not be able to be lifted from the metal by more than 5 mm.

The adhesion test and requirement are in accordance with the European Standard EN 10223-7.

Resistance to Salt Spray:

Make an X-cut (St. Andrew's cross acc. to ASTM D 3359) by means of a hard metal pointed graving tool penetrating through the metal.

Test in accordance with ISO 9227. After 1000 hours, there shall be no underfilm corrosion or loss of adhesion in excess of 10 mm from the scratch and no signs of blistering, cracking or crazing on any part of the specimen.

3.4 Packaging

The panels are packed on Wooden Pallets, 20 panels per pallet.

The pallet and panels are packed in shrinkfoil or stretchfoil.

Page : 6 / 9

DATE : 25/03/2009

Replaces edition : 14/12/2007

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**Barofor® Square System (polyester coated)
Panels, Posts, Accessories****4 Posts**

The posts are made out of sendzimir Z275 (see § 2.3) and subsequently polyestercoated. There are 3 types of posts:

- Intermediary Posts
- Corner Posts
- End posts

4.1 Dimensions and Tolerances

The Barofor® posts are square 60x60 mm.

Tolerance on side lengths: $\pm 0,20$ mm.

Material Thickness: 2,00 mm

Tolerance on material thickness: $\pm 0,20$ mm.

The intermediary posts have 2x2 drilled holes for the fixation of the panel, see figure 4a.

The corner posts have 2x2 drilled holes for the fixation of the panel, see figure 4b.

Overview of standard lengths: See table 4. Other lengths are available on request.

4.2 Polyester coating**Colour:**

Green Ral 6005. Other colours on request.

Thickness of the coating:

Minimum 60 μ m.

Adhesion Test:

Make two scratches by means of a hard metal pointed graving tool through the coating and intersecting at an angle of $30^\circ \pm 5^\circ$. Lift a 30° peak with the point of the knife.

The coating shall not be able to be lifted from the metal by more than 5 mm.

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Resistance to Salt Spray:

Make an X-cut (St. Andrew's cross acc. to ASTM D 3359) by means of a hard metal pointed graving tool penetrating through the metal.

Test in accordance with ISO 9227. After 1000 hours, there shall be no underfilm corrosion or loss of adhesion in excess of 10 mm from the scratch and no signs of blistering, cracking or crazing on any part of the specimen.

4.3 Packaging

The posts are packed per 48 on a wooden pallet, wrapped in stretchfoil or in shrinkfoil.

Barofor® Square System (polyester coated)
Panels, Posts, Accessories**5 Accessories**

Each post is delivered with a black square plastic cap: 60X60.

Accessories for the fixation of the panels on the posts are:

- Fixation pieces (Polyamide PA6) for intermediate posts.
- Intermediate pins dia 10 x 140 mm (Stainless Steel)
- End or corner pins dia 10 x 60 mm with threaded rod (Stainless Steel)
- Washers (Steel, treated with an anti-corrosion coating)
- Plastic caps for end posts

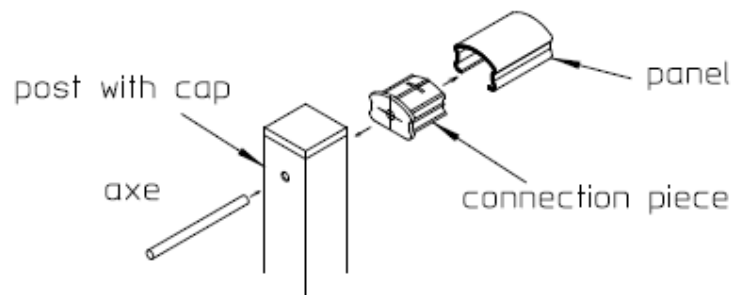


Figure 4a: installation on intermediate post

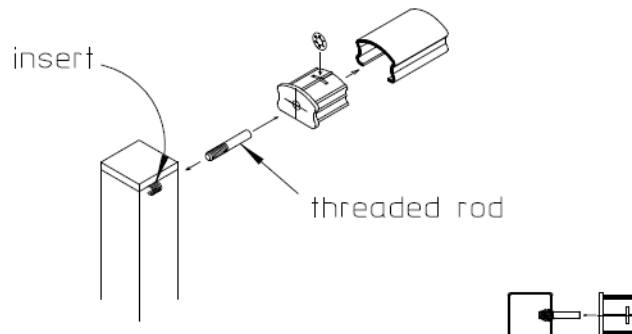


Figure 4b: installation on end-post

Technical Data Sheet
TDS-06-02

Barofor® Square System (polyester coated)
Panels, Posts, Accessories

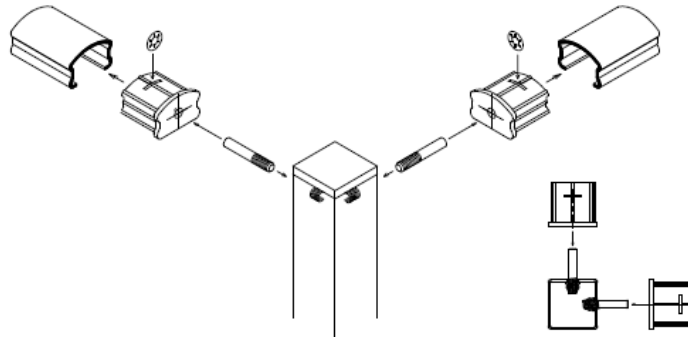


Figure 4c: installation on corner post

Page : 9 / 9
DATE : 25/03/2009
Replaces edition : 14/12/2007

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