Technical Data Sheet
TDS-04-17

Nylofor 3D Super

1 General

1.1 Scope

This specification specifies requirements for galvanised steel wire welded and subsequently organically coated mesh panels for fencing.
The panels are used for fencing parks, schools, sport stadiums, public buildings, factories, airports, military sites...
The panels have round horizontal wires and vertical "V-shaped" ones, see picture 1 and 2.
The vertical wires have a barb at one side of the panel.
The V-shapes are bent before polyester coating.

Photo 1 and 2:exemple of Nylofor 3DSuper

1.2 Normative references

- EN 10016-2: Non-alloy steel rod for drawing and/or for cold rolling, Part 2: Specific requirements for general purposes rod.
- EN 10218-2: Steel wire and wire products – General, Part 2: Wire dimensions and tolerances.
- EN 10223-7: Steel wire and wire products for fences, Part 7: Steel wire welded panels for fencing.
- EN 10244-2: Steel wire and wire products - Non-ferrous metallic coatings on steel wire, Part 2: Zinc or zinc-alloy coatings.
- ISO 9227: Corrosion tests in artificial atmospheres; salt spray tests.

1.3 Definitions

- Nominal wire diameter (d): the diameter in mm to designate the wire.
- Real wire diameter: the average value of the minimal and the maximal diameter, measured in the same section of a straight piece of wire, by means of a micrometer accurate to 0,01 mm.
- Mesh sizes: the distance measured between the centres of two neighbouring wires.

2 Raw Materials

2.1 Wire rod: see table 1.

Table 1: Chemical composition (1)

Element	%
C	≤ 0,10
Si	≤ 0,30
Mn	≤ 0,60
P	≤ 0,035
S	≤ 0,035

(1) In accordance with EN 10016-2 - C9D.

2.2 Zinc

Minimum 99,95 % of pure zinc.

2.3 Polyester

The polyester is free from lead, cadmium..

3 Requirements

Panels are fabricated by electrical resistance welding of zinc coated steel wires and are subsequently polyester coated.

3.1 Wire diameter and tolerances

- Core diameter of the horizontal galvanised wires 7,50 ± 0,08 mm
- Core diameter of the vertical galvanized wires 4,65 ± 0,06 mm
- Diameter of polyester-coated horizontal galvanised wires: 8,0 ± 0,25 mm
- Diameter of polyester-coated vertical galvanized wires: 5,0 ± 0,20 mm

The tolerances are in accordance to EN 10218-2

3.2 Tensile strength of the wire

Vertical wires: 500 to 700 N/mm².
Horizontal wires: 500 to 700 N/mm².

3.3 Mesh sizes and tolerances

Mesh spacing is measured between the centres of two neighbouring wires:

- Distance between the horizontal wires: 200 ± 4,0 mm.
- Distance between the vertical wires: 50 ± 3,0 mm.

The tolerances are in accordance with EN-10223-7

3.4 Welding strength

The average weld shear strength of 4 welds taken at random shall not be less than 50% of the breaking strength of the vertical wire (in accordance with EN 10223-7).

3.5 Overhang

The overhang of the horizontal wires shall be not more than 3 mm, burrs shall be avoided.

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3.6 Panel

3.6.1 Dimensions of the panel

Width of the panel: 2500 mm ± 3 mm, measured between the centres of the vertical wires
Height of the panel: see table 2 and fig. 3.; tolerance ± 3 mm.

Table 2: Dimensions of the panel

Overall height of the panel mm	Number of horizontal wires	Number of V-shapes	Betafence drawing
1630	12	3	NYL50P006001
2030	15	4	NYL50P006002
2430	17	4	NYL50P006003

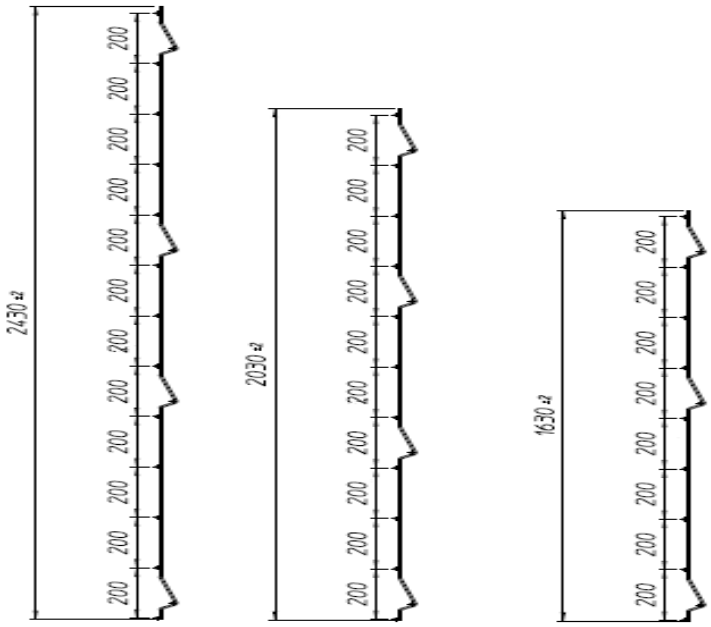

Fig. 3: Dimensions of the panel

3.6.2 V-shapes in the vertical wires

Number of V-shapes: see table 2.
Dimension of the V-shapes: see fig. 4.

- spacing between the horizontal wires : 200 ± 2,0 mm,
- depth : 43,60 + 2,0 mm/ -1mm (see fig. 4)

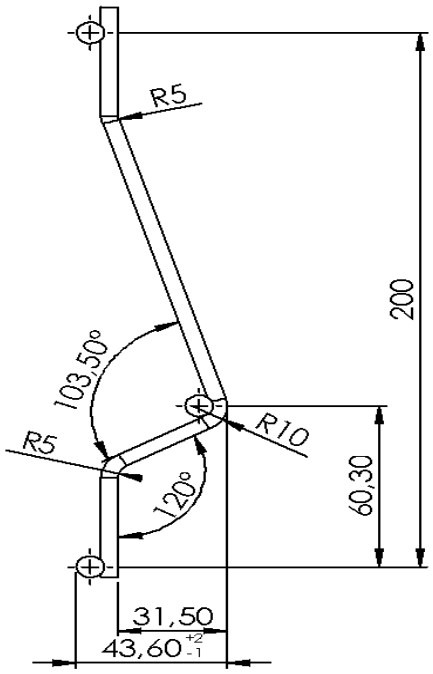

Fig. 4: Dimensions of the V-shape

3.6.3 Barbs

The vertical wires have, at one side of the panel, a barb of 30±2mm measured from the underside of the upper horizontal wire 1.
At the other sides the vertical and horizontal wires protrude over a distance of no more than 3 mm.

3.7 Coating

3.7.1 Metallic coating

The wires are galvanised and the min. zinc weight for the horizontal and vertical wires is 30 g/m².

3.7.2 Organic coating

- **Thickness polyester coating:**
  The panels are after welding subsequently polyester coated and the layer has a minimum thickness of 100 µm. The minimum is the average of 10 measurements done on 1 panel.
- **Colour:**
  Standard colour is green RAL 6005. Other standard colours are available and can be found in the technical data sheet TDS-99-33. (Polyester coating)
  Non-standard colours: on request.
- **Adhesion of the polyester:**
  make a scratch in the longitudinal direction of the wire, by means of a hard metal pointed graving tool, penetrating through the metal .The length of the scratch will be about 50mm. The coating shall not be able to be lifted from the metal by more than 5 mm.
- **Resistance of the polyester to salt spray:**
  make a scratch in the longitudinal direction of the wire, by means of a hard metal pointed graving tool, penetrating through the metal .The length of the scribe will be about 50mm. Test in accordance with ISO 9227.

  There shall be, after 1000 h salt spray, no corrosion beneath the polyester 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 Form of delivery

Panels are delivered on a four-way pallet, protected by stretch-foil.
Number of panels per pallet, weight and sizes: see table 3.
Panels are strapped and packed in foil to protect against damages.
A label is stuck on the pallet stating mesh size, width and height of the panel.

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Table 3 : Form of delivery and packing

Overall height of the panel mm	Number of panels per pallet	Weight of the panel kg	Sizes of the forwarding unit L x W x H cm
2500 x 1630	40	21,9	253 x 163 x 68
2500 x 2030	40	27,3	253 x 203 x 68
2500 x 2430	30	31,8	253 x 247 x 48