Nylofor® 3D

1 General

1.1 Scope

This specification specifies requirements for galvanised steel wire welded and subsequently organically coated mesh panels for fencing according to EN 10227-7.
The panels are used for fencing parks, schools, sport stadia, public buildings, factories, airports, military sites...
The panels have round horizontal wires and vertical "V-shaped" ones, see fig. 1.
The vertical wires have a barb at one side of the panel.
The V-shapes are bent before polyester coating.

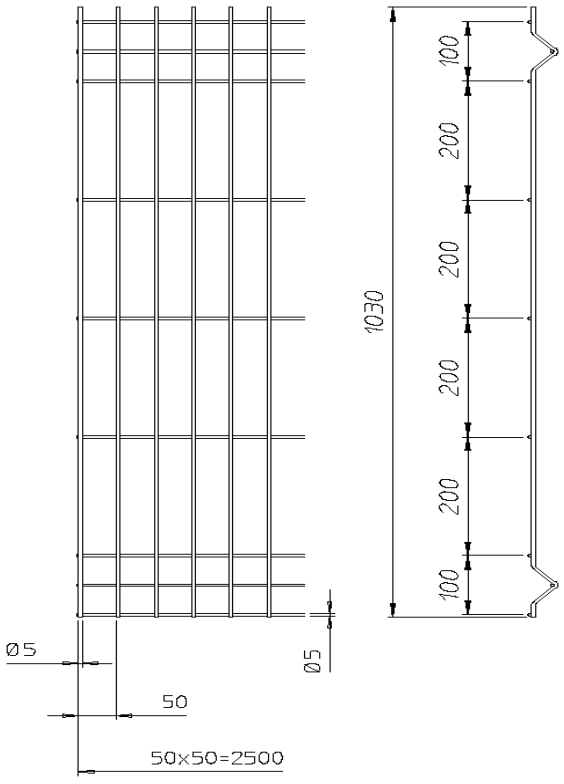

Fig. 1

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

In accordance with EN 10016-2 - C9D, see table 1.

Table 1: Chemical composition

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

2.2 Zinc

Minimum 99,95 % of pure zinc.

2.3 Polyester

The polyester is free of 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 wire: 4,65 ± 0,06 mm
- Core Diameter of the vertical wire: 4,65 ± 0,06 mm
- Diameter of the horizontal coated wire: 5,0 ± 0,20 mm
- Diameter of the vertical coated wire: 5,0 ± 0,20 mm

The tolerances are in accordance with 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: see fig. 3, 100± 3 mm, measured over a random number of meshes.
- Distance between the vertical wires: 50± 3 mm, measured over a random number of meshes.

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.

3.6 Panel

3.6.1 Dimensions of the panel

Width : 2500 ± 3 mm, measured from centre to centre,
Height : see table 2 and fig. 2.; tolerance on the height: ± 3 mm.

Table 2: Dimensions of the panel

Overall height of the panel mm	Number of horizontal wires	Number of V-shapes	Betafence drawing
630	7	2	NYL50P004001
1030	9	2	NYL50P004002
1230	10	2	NYL50P004003
1530	13	3	NYL50P004004
1730	14	3	NYL50P004005
1930	15	3	NYL50P004006
2030	17	4	NYL50P004007
2430	19	4	NYL50P004008

Technical Data Sheet
TDS-04-12

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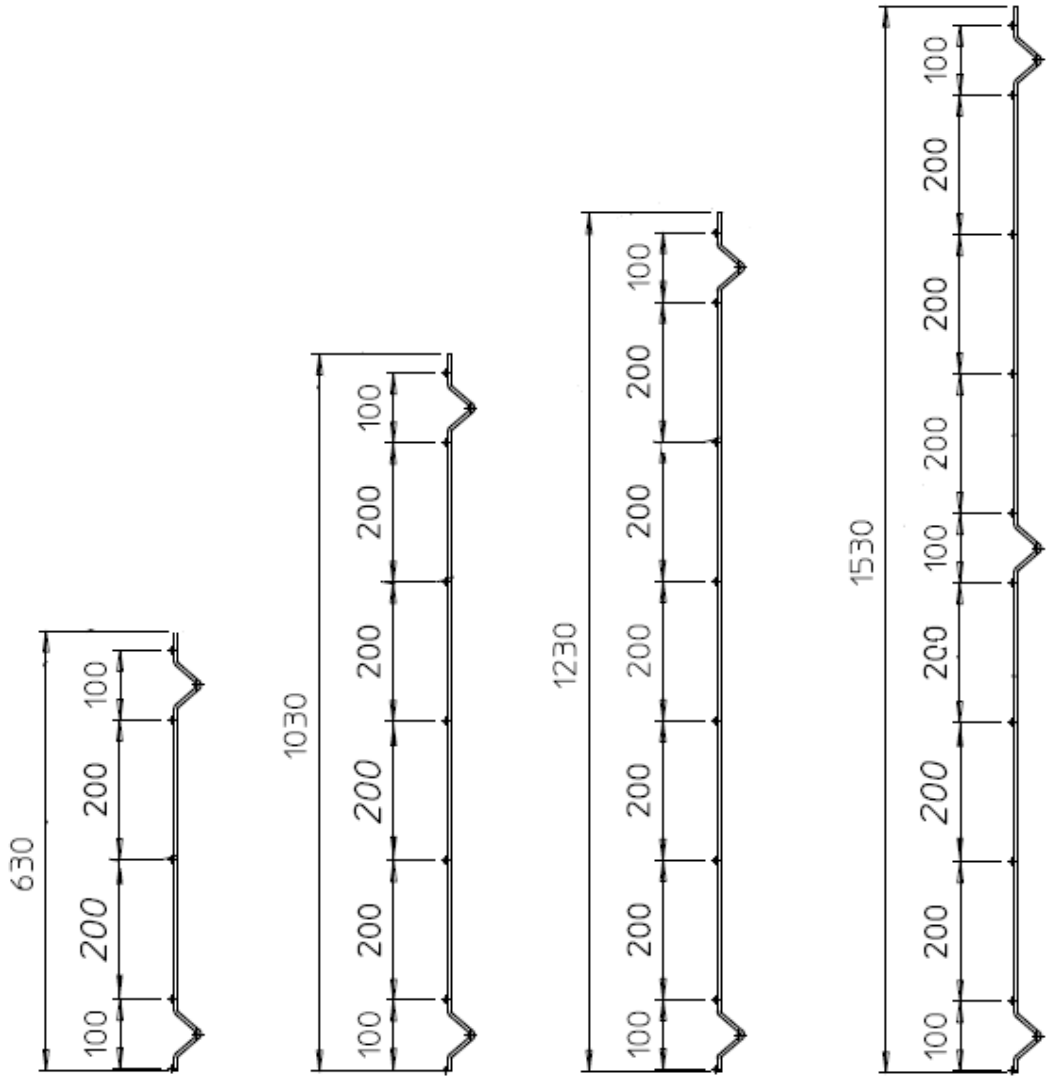

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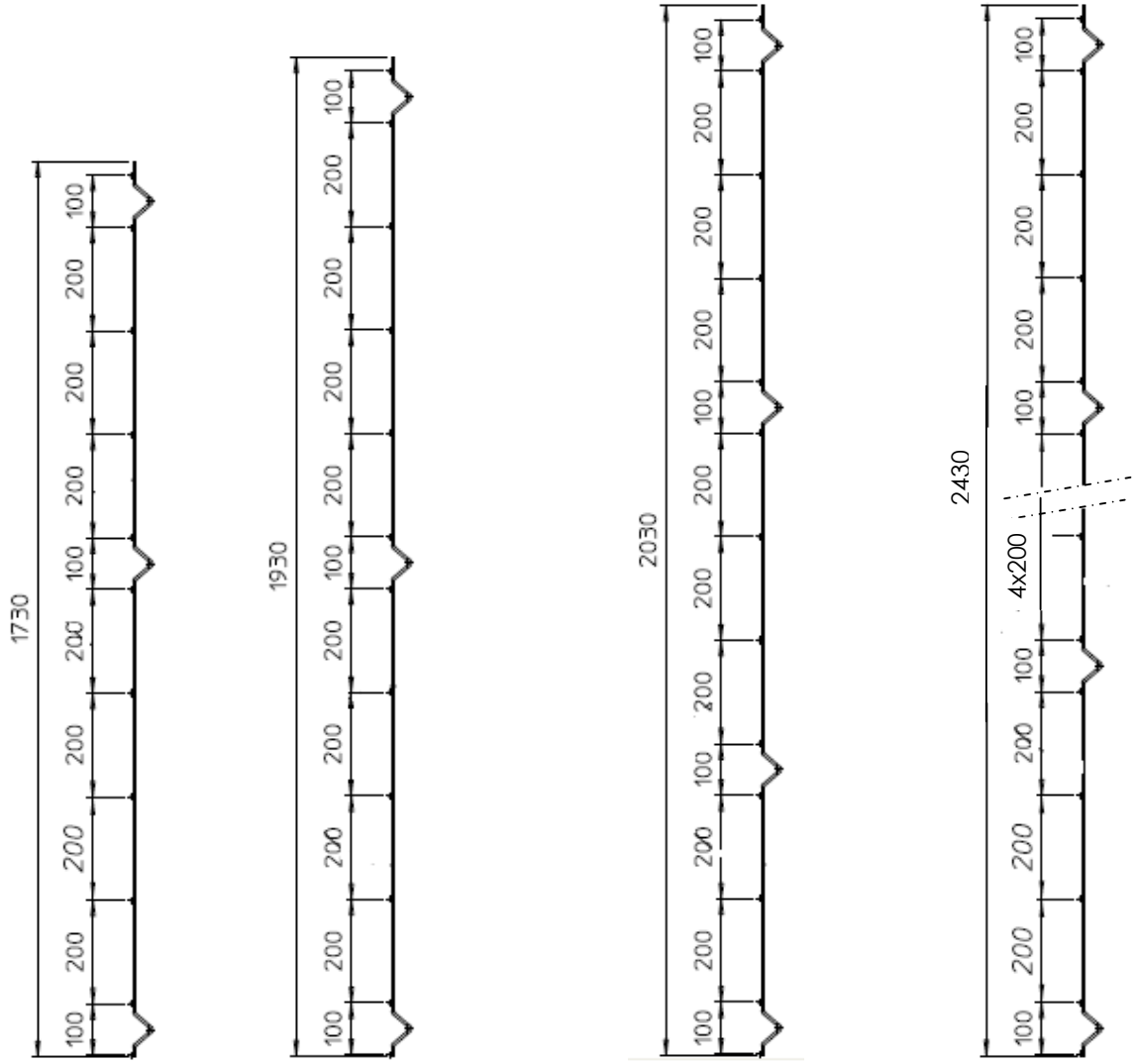

Fig.2

3.6.2 Dimensions of the V-shapes

Number of V-shapes : see table 2.
Dimensions of V-shapes : see fig. 3.

- Spacing between the horizontal wires : 100 ± 2,0 mm.
- Depth : 43,6 + 2,0mm/-1mm (see fig. 3)

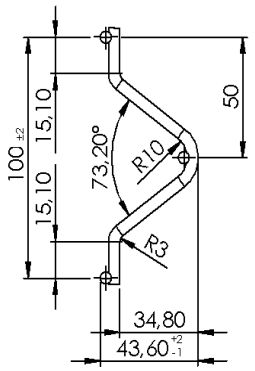

Figure 3

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: see fig. 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
  The layer is minimum 100 µm thick. The minimum is the average of 10 measurements done on 1 panel.
- **Colour:**
  Standard colour is green RAL 6005 and white 9010. 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.
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	Drawing N°
630	50	7	253 x 63 x 68	NYL50P004001
1030	50	10,4	253 x 103 x 68	NYL50P004002
1230	50	12,1	253 x 125 x 68	NYL50P004003
1530	50	15,3	253 x 153 x 68	NYL50P004004
1730	50	17	253 x 173 x 68	NYL50P004005
1930	50	18,8	253 x 193 x 68	NYL50P004006
2030	50	20	253 x 203 x 68	NYL50P004007
2430	30	24	253 x 247 x 48	NYL50P004008