



GEVACRIL

○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

Quality description for cast acrylic rods and cast acrylic bars¹

Contents

PREFACE	2
1 MATERIAL FEATURES	2
2 QUALITY DESCRIPTION	2
2.1 <i>Optical quality</i>	2
2.2 <i>Thermic features</i>	3
2.3 <i>Weather resistance</i>	3
2.4 <i>Tolerances</i>	3
2.5 <i>Delivery conditions</i>	5
2.5.1 <i>Packing</i>	5
2.5.2 <i>Delivery packing</i>	6
2.6 <i>Identification</i>	6
2.6.1 <i>Product identification</i>	6
2.6.2 <i>Identification of the delivery cases</i>	6

¹ In the whole text as QS. Our QS is written in conformity with the norms ISO 9002



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

Preface

Our QS has been valid since 1st January 1999. Purpose of this certification is to guarantee the excellent quality of every single rod and bar.

The strict quality control during the production process and a constant improvement of the production technologies allows the standardisation of the quality of these products.

1 Material features

Cast acrylic rods and bars are polymerized plastic semi-finished products. They are got through milling of cast acrylic sheets. After the polishing process they are characterised by high purity, brightness and transparency; besides they can be easily glued through a polymer-glue and are very resistant against weather conditions: the above mentioned features remain unalterable over years².

2 Quality description

The QS includes following contents: optical quality; thermic features; weather resistance; tolerances; delivery condition.

2.1 Optical quality

Cast acrylic round rods and square bars are transparent and have a clear bright wall. They are free of any kind of tracks or deep scratches. In spite of this some optical defects are not to avoid while looking sidelong through them. Following defects are admitted:

Table 1: Admitted defects

Defect group	Superficial scratch mm	Bubbles, foreign bodies, filaments mm²	max. number of defects admitted on 1000 mm. of rod/bar
A	≤ 1,0	≤ 1,0	many ³
B	> 1,0 – 2,0	> 1,0 – 2,0	5 LD (B)
C	> 2,0 – 5,0	> 2,0 – 5,0	1 MD (C) + 2 LD (B) ⁴
D	> 5,0 – 10,0	> 5,0 – 10,0	1 BD (D) ⁵

Table 1: A = negligible defect; B = little defect (LD); C = medium defect (MD); D: big defect (BD)⁶.

² See 2.3 on weather resistance

³ So long these defects do not alter the optical qualities of brightness and transparency on the whole rod/bar

⁴ Minimal distance: MD to LD = > 100 mm

⁵ On the entire rod/bar (2.000 mm.)



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

Following defects are not admitted:

- Deep scratches;
- Unpolymerized stuff in the material bigger than 10 mm²;
- rests of polishing material.

2.2 Thermic features

Cast acrylic rods and bars can be bent and formed at a temperature about 160-180 °C. After warming them as indicated in the table 2 following defects do not have to appear:

- internal bubbles;
- orange peel effect;
- ice effect (internal cracks);
- rings or yellowing effect.

Tabelle 2: Warming of cast acrylic tubes

Type of product	Time Min.	Temperature °C
Cast acrylic round rods	30	160
Cast acrylic square bars	30	160

Besides, after warming rods/bars as indicated in the table 2 following results can be also expected:

- disfigurement on the heads of rods and bars: < 2%;
- yellowing effect on the heads of rods and bars: ≤ 1,2% (Method AP2-MP/PA92:002)

2.3 Weather resistance

Weather resistance after 10 years open air in Melzo (Milan):

- minimal resistance: 60 MPA;
- light absorbtion: ≤ 2%;
- yellowing effect: ≤ 1%.

2.4 Tolerances

⁶ The data on the admitted defects are based on internal tests made by Gevacril srl



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

In the following tables are indicated the values of tolerance of cast acrylic rods and bars. Rods or bars that show worse values than those indicated in the table 3,4,5, do not get through the quality control and are systematically rejected.

Table 3: Tolerances for cast acrylic rods on the outside diameter

Diameter mm.	Tolerance mm.
10	± 0,2
12	± 0,2
15	± 0,2
18	± 0,2
20	± 0,2
22	± 0,2
24	± 0,2
25	± 0,2
28	± 0,2
30	± 0,2
34	± 0,2
35	± 0,2
38	± 0,2
40	± 0,2
45	± 0,2
50	± 0,2
55	± 1
60	± 1
65	± 1
70	± 1
75	± 1
80	± 1
85	± 1
90	± 1
95	± 1
100	± 1
110	± 1
120	± 1
130	± 1
140	± 1
150	± 1
160	± 1
170	± 1
180	± 1
190	± 1
200	± 1



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

Table 4: Tolerances for cast acrylic bars on the outside profile

Profile mm.	Tolerance mm.
10	± 0,4
12	± 0,4
15	± 0,4
20	± 0,4
25	± 0,4
30	± 0,4
35	± 0,4
40	± 0,4
45	± 0,4
50	± 0,4
55	± 1
60	± 1
65	± 1
70	± 1
75	± 1
80	± 1
85	± 1
90	± 1
95	± 1
100	± 1

Table 5: Length tolerance

Product type	Tolerance mm.
rods and bars	- 0/ + max 100

2.5 Delivery conditions

2.5.1 Packing

Rods or bars are packed - single or in bundle – in a PE stretch film and sealed with plastic tape.

The quantity of the rods or bars in a bundle depends on the diameter/profile:

a) cast acrylic rods:

- from Ø 10 = also until 50;
- from Ø 12 to Ø 20 = 1/5/10;
- from Ø 22 to Ø 40 = 1/2/5;
- from Ø 45 to Ø 200 = 1;



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

- b) cast acrylic bars:
- from □ 10 to □ 12 = 10/15;
 - from □ 15 to □ 25 = 1/10;
 - from □ 28 to □ 50 = 1 / 2;
 - from □ 55 to □ 100 = 1

2.5.2 Delivery packing

Cast acrylic rods and bars are set on wooden pallets after having been packed. The standard delivery packing include:

- a) wood base (Palette);
- b) the rods/bars - packed as in 2.5.1 - are wrapped in PE film and sealed with plastic tape for a safe transport;
- c) PE film

Rods and bars are delivered in standard pallets cases which measures are:

Table 8: Standard wood crates⁷

Measures mm.
2200x70/80/90/100/110/120

Max. height of the case: 115 cm
Max. weight of the case: 1000 Kg

2.6 Identification

2.6.1 Product identification

A label on every acrylic rod or bar - packed as in 2.4.1 - indicates:

- a) product type;
- b) diameter;
- c) length;
- d) day, month, year of production;
- e) quality control approval.

2.6.2 Identification of the delivery cases

⁷ In order to guarantee a good delivery we usually send the acrylic rod/bar only when a standard case is completely full



○ ● ■ Cast and Extruded Acrylic Tubes, Rods, Bars, Balls ■ ● ○

A label on every delivery case – as in 2.4.2 – indicates:

- f) destination address;
- g) case number;
- h) detailed case content.

Ask for more information by fax at 0039 02 95737357 or by mail at info@gevacril.com⁸

⁸ The information given refers only to the specific products indicated in the QS. Gevacril considers this information right, reliable and in conformity to the specific technical information available on the market at the moment of their printing but do not give any guaranty for them and for any kind of application or processing of the above mentioned products