

TOLLERANCES ACCORDING ASTM D3917

The **ASTM D3917** specification defines tolerances applicable to pultruded profiles with traditional geometric shapes as: WC, H, Angles, Hollow profiles, Rods, etc. based on thermosetting resins.

Custom shapes based on customer design can have different tolerances and must be agreed in the supply contract phase.

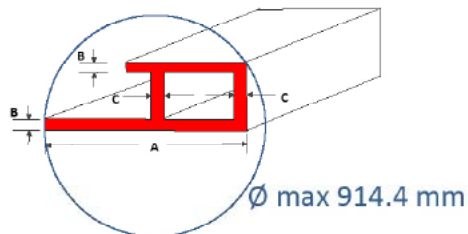
SHAPE AND THICKNESS DIMENSIONAL TOLERANCES

APPLICABLE TO SHAPES THAT CAN BE INSCRIBED IN A 914.4 mm MAX DIAMETER CIRCLE

A = ± 4% of specified dimension (but not more than 2.38 mm)

B (wall thickness - **open shape**) = ± 10% of specified dimension but not exceeding either 2,54 mm max. or 0.25 mm min.

C (wall thickness - **closed shape**) = ± 20% of specified dimension but not exceeding either 2,54 mm max. or 0.25 mm min.



STRAIGHTNESS

Rods and square, hexagonal, and octagonal bars – all dimensions:

D = 2.5 mm/m, measured without taking into account the profile weight

Rectangular bars up to 38.07 mm width and 2.38 mm thickness, included:

D = 4.16 mm/m, measured without taking into account the profile weight

Rectangular bars up to 38.07 mm width and over 2.38 mm thickness:

D = 3.3 mm/m, measured without taking into account the profile weight

Rectangular bars over 38.07 mm width and over 2.38 mm thickness :

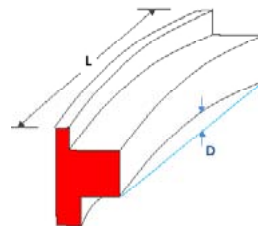
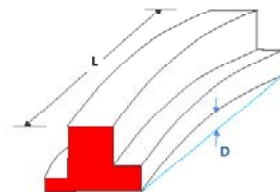
D = 3.3 mm/m, measured without taking into account the profile weight

Open shapes, all dimensions:

D = 4.16 mm/m, measured without taking into account the profile weight

Closed shapes, all dimensions:

D = 2.5 mm/m, measured when the profile weight minimizes the vertical deviation



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TWIST

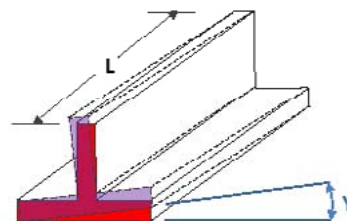
LENGTHS OVER 6.096 m ARE NOT CONSIDERED IN THIS STANDARD

BARS and OPEN SHAPES :

All dimensions and thickness: permitted $Y = 3.28^\circ/m$ twist up to 6.096 m in length

CLOSED SHAPES:

All dimensions and thicknesses : permitted $Y = 3.28^\circ/m$ twist up to 6.096 m in length, but not more than 7° total



THE MEASUREMENT MUST BE DONE KEEPING ONE SIDE OF THE PROFILE WELL FIXED ON A FLAT SURFACE AND MEASURING THE ANGLE DEVIATION ON THE OPPOSITE SIDE WHEN THE PROFILE WEIGHT MINIMIZES THE TWIST.

FLATNESS (FLAT SURFACES)

BARS, SOLID SHAPES AND OPEN SHAPES

PERMITTED A VERTICAL DEVIATION OF $0.008 \text{ mm} \times W$ (mm)
FOR ALL DIMENSIONS IN TERMS OF WIDTH AND THICKNESS

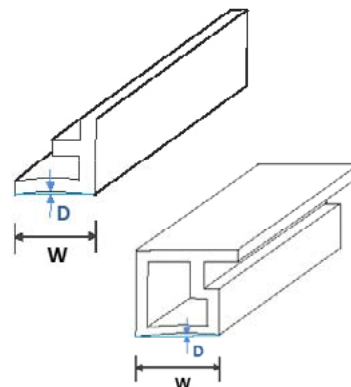
EXAMPLE:

IF " W " = 120 mm, THE VERTICAL DEVIATION " D " IS: $0.008 \times 120 = 0.96 \text{ mm}$.

CLOSED SHAPES

- Thickness up to 4.75 mm included, $D = 0.012 \text{ mm} \times W$ (mm)
- Thickness over 4.76mm , $D = 0.008 \text{ mm} \times W$ (mm)

THE MEASUREMENT MUST BE DONE ON THE LOWER THICKNESS FACE



ANGULARITY

Leg thickness up to 19.02 mm included = 2°

THE STANDARD DOES NOT APPLY TO THICKNESS OVER 19.02 mm

END CUT ANGULARITY = MAX $\pm 1^\circ$

