

## TOLLERANCES ACCORDING ASTM D3917

The **ASTM D3917** specification defines tolerances applicable to pultruded profiles with traditional geometric shapes as: C, 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.**

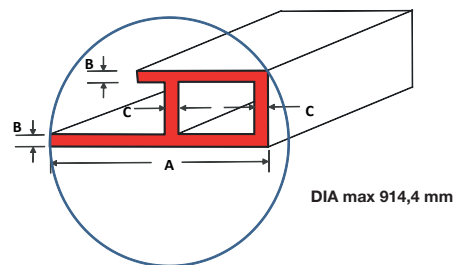
### SHAPE AND THICKNESS DIMENSIONAL TOLERANCES

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

**A** =  $\pm 4\%$  of specified dimension (but not more than 2.38 mm)

**B** (wall thickness - **open shape**) =  $\pm 10\%$  of specified dimension but not exceeding either 2.54 mm max. or 0.25 mm min.

**C** (wall thickness - **closed shape**) =  $\pm 20\%$  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 to 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 all thicknesses:**

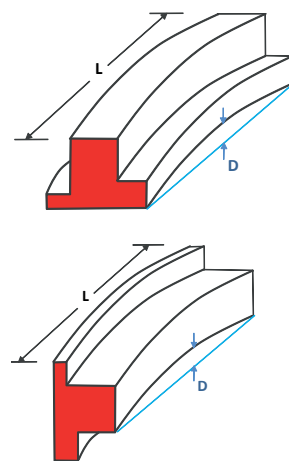
**D** = 3.3 mm/m, measured without taking into account the profile weight

**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

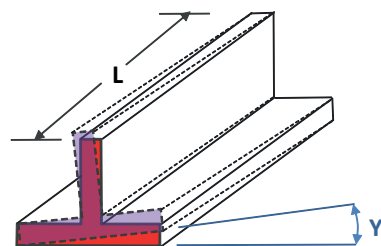
LENGTHS OVER 6.096 m ARE NOT CONSIDERED IN THIS STANDARD

### BARS and OPEN SHAPES :

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

### CLOSED SHAPES:

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

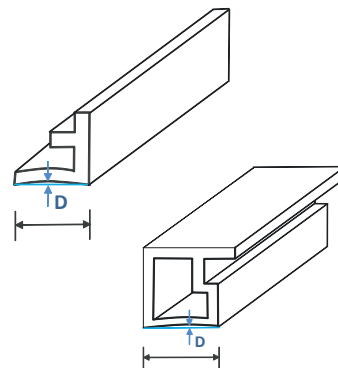
PERMITTED A VERTICAL DEVIATION OF  $0.008 \text{ mm} \times \mathbf{W}$  (mm)  
FOR ALL DIMENSIONS IN TERMS OF WIDTH AND THICKNESS

EXAMPLE:

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

### CLOSED SHAPES

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



**THE MEASUREMENT MUST BE DONE ON THE LOWER THICKNESS FACE**

## ANGULARITY

Leg thickness up to 19.02 mm included =  $2^\circ$

THE STANDARD DOES NOT APPLY TO THICKNESS OVER 19.02 mm

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

