GENERAL TOLERANCES

BEDFORD
REINFORCED PLASTICS, INC.

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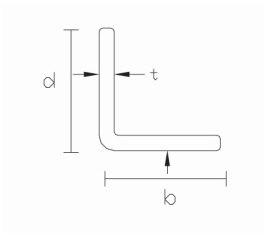
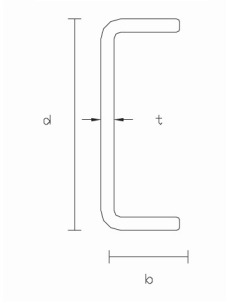
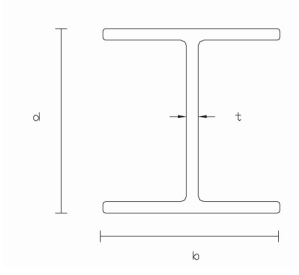
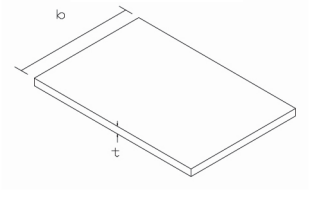
CROSS SECTIONAL TOLERANCES

SHAPE	DIMENSION	TOLERANCE % of Nominal	* MAXIMUM OR MINIMUM TOLERANCES
ANGLES 	t = thickness	± 10%	±0.010" min. *±0.26mm min.*
	b = flange width	± 5%	±0.094" max. *±2.4mm max.*
	d = depth	± 5%	± 0.094" max. *±2.4mm max.*
CHANNELS 	t = thickness	± 10%	±0.010" min. *±0.26mm min.*
	b = flange width	± 5%	±0.094" max. *±2.4mm max.*
	d = depth	± 5%	±0.094" max. *±2.4mm max.*
BEAMS 	t = thickness	± 10%	±0.010" min. *±0.26mm min.*
	b = flange width	± 5%	±0.094" max. *±2.4mm max.*
	d = depth	± 5%	±0.094" max. *±2.4mm max.*
FLAT SHEET 	t = thickness	± 10%	±0.040" max. *±1.02mm max.*
	b = width	± 3%	+0.094" max. -0.187" min. *±2.4mm max.* *-4.8mm min.*

*ENGLISH
METRIC

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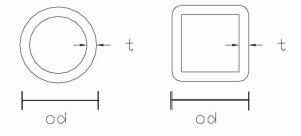
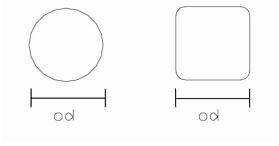
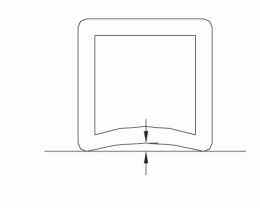
CROSS SECTIONAL TOLERANCES

SHAPE	DIMENSION	OUTSIDE DIMENSION CONDITION	TOLERANCES
ROUND & SQUARE TUBE 	t = thickness	Under 1" *Under 25.4mm*	±20%
		1" and up *25.4mm and up*	±15 %
	od = outside dimension	Under 1" *Under 25.4mm*	±0.020" *±0.5mm*
		1" and up *25.4mm and up*	±0.040" *±1.0mm*
ROUND ROD & SQUARE BAR 	od = outside dimension	Up to 3" *Up to 76.2mm*	±0.010" *±0.26mm*

FLATNESS

Flatness is measured in the center with the weight of the profile minimizing the deviation by contact with a flat surface.

STRUCTURAL SHAPES RODS, BARS, & FLAT SHEET 	Allowable deviation from flat		
	Width	All Thickness	
	Up to 1" *Up to 25.4mm*	0.008" *.21mm*	
	Over 1" *Over 25.4mm*	0.008"/in. *.21mm/mm*	
HOLLOW SHAPES 	Allowable deviation from flat		
	Width	Thickness 0.125" to 0.188" *3.18mm to 4.7mm*	Thickness 0.189" and over *4.8mm and over*
	Up to 1" *Up to 25.4mm*	0.012" /in. *.31mm*	0.008"/in. *.21mm*
	Over 1" *Over 25.4mm*	0.012"/in. *.31mm/mm*	0.008"/in. *.21mm/mm*

*ENGLISH
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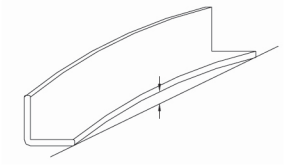
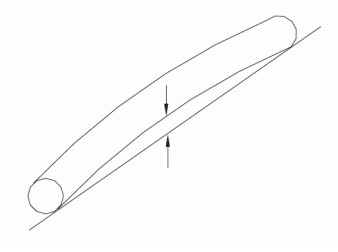
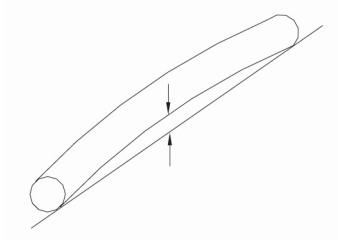
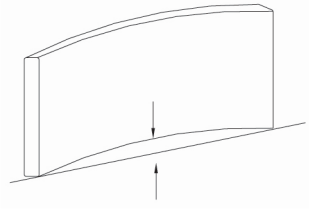
STRAIGHTNESS

Straightness is measured in the center with the weight of the pultrustion minimizing the deviation by contact with a flat surface.

ANGLE, BEAM AND CHANNEL 	Allowable deviation from straight	
	All widths	0.050"/ft. *4.2mm/m*
RODS AND BARS 	Allowable deviation from straight	
	Diameter/Depth	Per Foot Per Meter
	Up to 1" *Up to 25.4mm*	0.020" *1.7mm*
	Over 1" *Over 25.4mm*	0.040" *3.4mm*
ROUND, SQUARE, AND RECTANGULAR TUBE 	Allowable deviation from straight	
	Diameter/Depth	Per Foot Per Meter
	Up to 2" *Up to 50.8mm*	0.020" *1.7mm*
	Over 2" *Over 50.8mm*	0.030" *2.5mm*
FLAT SHEET AND PLATE 	Allowable deviation from straight	
	All thickness and widths	0.025"/ft. *2.1mm/m*

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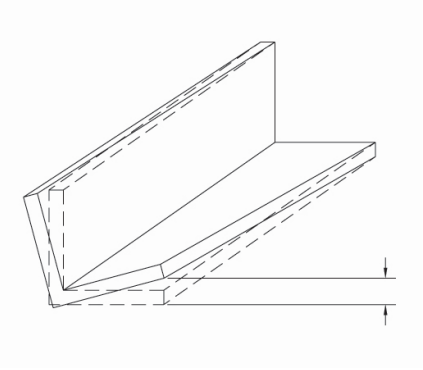
TWIST

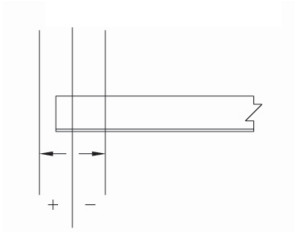
Twist is measured with the weight of the pultrusion minimizing the twist.

ALL PROFILES	Allowable twist		
	Width/Depth	In. Per Foot *mm. Per Meter*	Per Piece Max. In./*mm*
	Up to 1.499" *Up to 38.1mm*	tan 1° x width *tan 1°x width x 3.28*	tan 7° x width
	1.500" to 2.999" *38.10mm to 76.2mm*	tan 1/2° x width *tan 1/2°x width x 3.28*	tan 5° x width
	3.000" and over *76.3mm and over*	tan 1/3° x width *tan 1/3° x width x 3.28*	tan 3° x width

ANGULARITY

ALL PROFILES	Allowable deviation from specific angle	
	Thickness up to 3/4" *Thickness up to 19mm*	tan 1 1/2^{O} x width of flange in inches *tan 1 1/2^{O} x width of flange in mm*

CUT LENGTHS

ALL PROFILES	Allowable deviation from specific length	
	Up to 20' *6.10 meters*	-0, +1/2" /cut length* *-0, +12.7mm/cut length**
	Over 20' to 50' *Over 6.1 to 15.24 meters*	-0, +1" /cut length* *-0, +25.4mm/cut length*

* All parts being cut from stock must allow for blade width.

SQUARENESS OF ENDCUT

ALL PROFILES	Allowable deviation from square	
	All thicknesses	tan 1^{O} x width in inches *tan 1° x width in millimeters*

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