

Datasheet: EN AW 7075 Bars and Rods - Aluminium Alumeco ApS 15-12-2025					Internal alloy name: 7075 Chemical symbol: AW – Al Zn5,5MgCu International alloy name: AW 7075 UNS: A97075 DIN-Werkstoff no.: 3.4365 Alloy type: Heat treatable alloy						
Main usage: • Machining/machinery • Forgings • Tools • Heavy duty structures • Hydraulics systems			Important norms and literature: General Standards: EN 573-3:2013: Aluminium and aluminium alloys – Chemical composition and form of wrought products – Part 3: Chemical composition and form of products. Geometric Tolerance: EN 755-5: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 5: Rectangular bars, tolerances on dimensions and form Product standards: EN 755-2:2016: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 2: Mechanical properties.								
Main properties: • Very good workability • Good machinability • High strength											
Chemical composition in %: EN 573-3:2013											
Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Remarks	Other elements	
										Each	Together
0,40	0,50	1,2 – 2,0	0,30	2,1 – 2,9	0,18 – 0,28	5,1 – 6,1	0,20	Rest	Max. 0,25 Zr + Ti	0,05	0,15
Mechanical properties: EN 755-2:2016 (Extruded)											
Temper	Dimensions mm		Tensile Stress R _m MPa	Proof Stress R _{p0,2} MPa	Elongation Min %		Hardness* HBW				
	Diameter (Rod)	Width across flats (Bar)			A	A _{50mm}					
O, H111	≤ 200	≤ 200	Max. 275	Max. 165	10	8	60				
T6, T6510, T6511	≤ 25	≤ 25	Min. 540	Min. 480	7	5	150				
	25 < D ≤ 100	25 < S ≤ 100	Min. 560	Min. 500	7	-					
	100 < D ≤ 150	100 < S ≤ 150	Min. 550	Min. 440	5	-					
	150 < D ≤ 200	150 < S ≤ 200	Min. 440	Min. 400	5	-					
T73, T73510, T73511	≤ 25	≤ 25	Min. 485	Min. 420	7	5	135				
	25 < D ≤ 75	25 < S ≤ 75	Min. 475	Min. 405	7	-					
	75 < D ≤ 100	75 < S ≤ 100	Min. 470	Min. 390	6	-					
	100 < D ≤ 150	100 < S ≤ 150	Min. 440	Min. 360	6	-					
* Information values only;											
Physical properties:											
Density	Solidification range	Electrical conductivity	Thermal conductivity	Thermal expansion	Annealing temperature	E - modulus					
g/cm³	°C	%IACS	W/m K	(µm m ⁻¹ K ⁻¹)	°C	(N / mm²)					
2,81	475 - 635	38 - 52	130-160	23,5	-	72.000					
Properties and information's (3 high/good; 2 Middle; 1 Poor/bad)											
Resistance: Corrosion index, general: 1 Marine Atm. Corr index: 1 Hot workability: Extrusion: 2 Forging: 2 Cold formability: Cold formability general: 1 Deep drawing: 1 Bending: 2			Weldability: TIG welding: 1 MIG welding: 1 Solderability: 1			Machinability: Machinability index: 3 Anodizing: Decorative anodizing surface treatment: 1 Protective anodizing index: 2 Hard anodizing: 2 Color anodizing: 1					

Tolerances for Rectangular Bars of AW 7075

Dimensions: EN 755-5:2008*

Width and thickness tolerances for alloy group II

Width W	Tolerances	Thickness t tolerances for thickness ranges								
		$2 \leq t \leq 6$	$6 < t \leq 10$	$10 < t \leq 18$	$18 < t \leq 30$	$30 < t \leq 50$	$50 < t \leq 80$	$80 < t \leq 120$	$120 < t \leq 180$	$180 < t \leq 240$
$10 \leq W \leq 18$	$\pm 0,35$	$\pm 0,25$	$\pm 0,30$	$\pm 0,35$	-	-	-	-	-	-
$18 < W \leq 30$	$\pm 0,40$	$\pm 0,25$	$\pm 0,30$	$\pm 0,40$	$\pm 0,40$	-	-	-	-	-
$30 < W \leq 50$	$\pm 0,50$	$\pm 0,30$	$\pm 0,30$	$\pm 0,40$	$\pm 0,50$	$\pm 0,50$	-	-	-	-
$50 < W \leq 80$	$\pm 0,70$	$\pm 0,30$	$\pm 0,35$	$\pm 0,45$	$\pm 0,60$	$\pm 0,70$	$\pm 0,70$	-	-	-
$80 < W \leq 120$	$\pm 1,0$	$\pm 0,35$	$\pm 0,40$	$\pm 0,50$	$\pm 0,60$	$\pm 0,70$	$\pm 0,80$	$\pm 1,0$	-	-
$120 < W \leq 180$	$\pm 1,4$	$\pm 0,45$	$\pm 0,50$	$\pm 0,55$	$\pm 0,70$	$\pm 0,80$	$\pm 1,0$	$\pm 1,1$	$\pm 1,4$	-
$180 < W \leq 240$	$\pm 1,8$	-	$\pm 0,60$	$\pm 0,65$	$\pm 0,70$	$\pm 0,90$	$\pm 1,1$	$\pm 1,3$	$\pm 1,6$	$\pm 1,8$
$240 < W \leq 350$	$\pm 2,2$	-	$\pm 0,70$	$\pm 0,75$	$\pm 0,80$	$\pm 0,90$	$\pm 1,2$	$\pm 1,4$	$\pm 1,7$	$\pm 1,9$
$350 < W \leq 450$	$\pm 2,8$	-	-	$\pm 0,90$	$\pm 1,0$	$\pm 1,1$	$\pm 1,4$	$\pm 1,8$	$\pm 2,1$	$\pm 2,3$
$450 < W \leq 600$	$\pm 3,5$	-	-	-	-	$\pm 1,2$	$\pm 1,4$	$\pm 1,8$	-	-

* Values are referred from Table 2 of EN 755-5:2008

Dimensions: EN 755-5:2008*

Maximum corner radii

Thickness t	Maximum corner radii (Alloy group II)
$2 \leq t \leq 10$	1,0
$10 < t \leq 30$	1,5
$30 < t \leq 80$	2,5
$80 < t \leq 120$	3,0
$120 < t \leq 180$	4,0
$180 < t \leq 240$	5,0

* Values are referred from Table 4 of EN 755-5:2008

Dimensions: EN 755-5:2008*

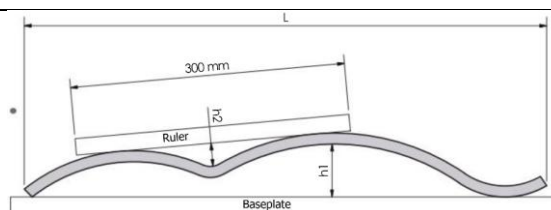
Fixed length tolerances

Width W (mm)	Tolerances on length		
	$L \leq 2000$	$2000 < L \leq 5000$	$L > 5000$
$w \leq 100$	+5 0	+7 0	+10 0
$100 < w \leq 200$	+7 0	+9 0	+12 0
$200 < w \leq 450$	+8 0	+11 0	+14 0
$450 < w \leq 600$	+9 0	+12 0	+16 0

* Values are referred from Table 5 of EN 755-5:2008

Dimensions: EN 755-5:2008*

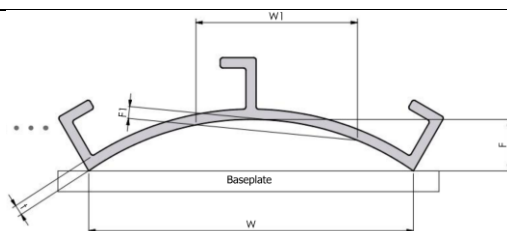
Straightness tolerances



Width W (mm)	Thickness t	Maximum deviation from straightness per metre length h_1 / L (mm/m)	Maximum localized kink in any 300 mm portion h_2
$10 \leq W \leq 80$	$10 \leq t \leq 80$	2	1
$80 < W \leq 120$	$10 \leq t \leq 50$	2	1
	$50 < t \leq 120$	3	1,5
$120 < W \leq 180$	$10 \leq t \leq 50$	3	1,5
	$50 < t \leq 180$	4	2
$180 < W \leq 350$	$10 \leq t \leq 50$	4	2
	$50 < t \leq 240$	6	4
$350 < W \leq 450$	$10 \leq t \leq 240$	6	4
$450 < W \leq 600$	$30 < t \leq 120$	6	4

* Values are referred from Table 6 of EN 755-5:2008

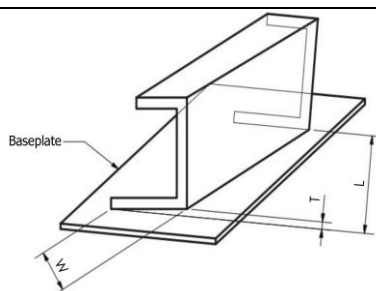
Dimensions: EN 755-5:2008*
Convexity-Concavity tolerances



Width W	Tolerances for convexity-concavity F
$10 \leq t \leq 30$	0,2
$30 < t \leq 50$	0,3
$50 < t \leq 80$	0,4
$80 < t \leq 120$	0,6
$120 < t \leq 180$	0,9
$180 < t \leq 240$	1,2
$240 < t \leq 350$	1,5
$350 < t \leq 450$	2,0
$450 < t \leq 600$	2,5

* Values are referred from Table 7 of EN 755-5:2008

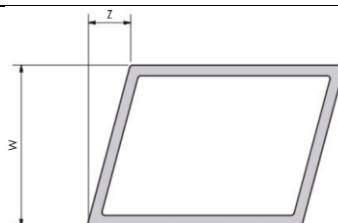
Dimensions: EN 755-5:2008*
Twist tolerances



Width W	Twist tolerances T (mm)	
	Per 1000 mm of length	Over the total length
$10 \leq t \leq 30$	1	3
$30 < t \leq 50$	1,5	4
$50 < t \leq 120$	2	5
$120 < t \leq 240$	3	8
$240 < t \leq 350$	4	10
$350 < t \leq 450$	5	12
$450 < t \leq 600$	6	14

* Values are referred from Table 8 of EN 755-5:2008

Dimensions: EN 755-5:2008*
Squareness tolerances



Thickness t (mm)	Maximum deviation from square Z (mm)
$2 \leq t \leq 10$	0,1
$10 < t \leq 100$	0,01 * thickness
$100 < t \leq 180$	1,0
$180 < t \leq 240$	1,5

* Values are referred from Table 9 of EN 755-5:2008