

Datasheet: EN Cu-DHP / CW024A 99,90% Pure Copper Tubes – Air Conditioning and Refrigeration Alumeco ApS 26-11-2025				Internal alloy name: CW024A Metal: Copper Chemical Symbol: Cu-DHP EN: EN Cu-DHP UNS: C12200 SIS: 5015 GB: TP2 / C12200 Also known as: - Alloy type: Electrical conducting																																																																							
Main usage: Automotive – Radiators Piping – Gas, Water, Medical, Heating & Air Conditioning Main properties: Excellent for welding and soldering properties Great for deforming, either hot or cold				Important norms and literature: General Standards EN 12735-1:2010: Copper and copper alloys – Seamless, round copper tubes for air conditioning and refrigeration – Part 1: Tubes for piping systems Geometric Tolerance: EN 12735-1:2010: Copper and copper alloys – Seamless, round copper tubes for air conditioning and refrigeration – Part 1: Tubes for piping systems																																																																							
Chemical composition in %: EN 12735-1:2010 <table><tr><td colspan="2">Cu</td><td colspan="3">P</td><td colspan="3">Other elements</td></tr><tr><td colspan="2"></td><td colspan="3"></td><td colspan="2">Each</td><td colspan="2">Together</td></tr><tr><td colspan="2">99,90</td><td colspan="3">0,015 – 0,040</td><td colspan="2">-</td><td colspan="2">-</td></tr></table>								Cu		P			Other elements								Each		Together		99,90		0,015 – 0,040			-		-																																											
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Mechanical properties: EN 12735-1:2010 <table><tr><td rowspan="2">Material Condition</td><td>Wall Thickness <i>t</i></td><td>Tensile Strength <i>R_m</i></td><td>0,2% proof strength <i>R_{p0,2}</i></td><td>Elongation <i>A</i></td><td colspan="2">Hardness</td></tr><tr><td>Max. mm</td><td>Min. MPA</td><td>MPa</td><td>Min. %</td><td>HV</td><td>HBW</td></tr><tr><td>R200</td><td>20</td><td>200</td><td>Max. 110</td><td>40</td><td>-</td><td>-</td></tr><tr><td>H040</td><td>20</td><td>-</td><td>-</td><td>-</td><td>40 – 65</td><td>35 – 60</td></tr><tr><td>R250</td><td>3 – 10</td><td>250</td><td>Min. 150</td><td>15 - 30</td><td>-</td><td>-</td></tr><tr><td>H070</td><td>10</td><td>-</td><td>-</td><td>-</td><td>70 – 100</td><td>65 – 95</td></tr><tr><td>R290</td><td>5</td><td>290</td><td>Min. 250</td><td>3</td><td>-</td><td>-</td></tr><tr><td>H095</td><td>5</td><td>-</td><td>-</td><td>-</td><td>95 – 120</td><td>90 – 115</td></tr></table>								Material Condition	Wall Thickness <i>t</i>	Tensile Strength <i>R_m</i>	0,2% proof strength <i>R_{p0,2}</i>	Elongation <i>A</i>	Hardness		Max. mm	Min. MPA	MPa	Min. %	HV	HBW	R200	20	200	Max. 110	40	-	-	H040	20	-	-	-	40 – 65	35 – 60	R250	3 – 10	250	Min. 150	15 - 30	-	-	H070	10	-	-	-	70 – 100	65 – 95	R290	5	290	Min. 250	3	-	-	H095	5	-	-	-	95 – 120	90 – 115													
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Properties and information's (3 Excellent; 2 Good; 1 Poor/not recommendable)¹ <table><tr><td colspan="2">Machinability (Zerspanbarkeitsindex): 20* *(CuZn39Pb3 = 100)</td><td colspan="2">Joining Methods:</td><td colspan="2">Surface Treatment:</td></tr><tr><td colspan="2" rowspan="5">Forming Methods:</td><td>Soldering:</td><td>3</td><td colspan="2">Polishing:</td></tr><tr><td>Brazing:</td><td>2</td><td colspan="2">Mechanical:</td><td>2</td></tr><tr><td>Oxy-acetylene welding:</td><td>1</td><td colspan="2">Electrolytic/chemical:</td><td>3</td></tr><tr><td>Gas-shielded arc welding:</td><td>1</td><td colspan="2">Galvanizing:</td><td>3</td></tr><tr><td>TIG welding:</td><td>1</td><td colspan="2">Hot Dipping:</td><td>3</td></tr><tr><td colspan="2">Hot Formability: 2</td><td>MIG welding:</td><td>1</td><td colspan="2"></td></tr><tr><td colspan="2">Cold Formability: 3</td><td>Spot/seam welding</td><td>1</td><td colspan="2"></td></tr><tr><td colspan="2" rowspan="4">Corrosion resistance:</td><td>Butt welding</td><td>2</td><td colspan="2"></td></tr><tr><td>Gluing/adhesion:</td><td>2</td><td colspan="2"></td></tr><tr><td>Atmosphere:</td><td>2</td><td colspan="2"></td></tr><tr><td>Waters and alkaline:</td><td>2</td><td colspan="2"></td></tr><tr><td colspan="2">Acids, Ammonia, Seawater: 1</td><td colspan="2"></td><td colspan="2"></td></tr></table>								Machinability (Zerspanbarkeitsindex): 20* *(CuZn39Pb3 = 100)		Joining Methods:		Surface Treatment:		Forming Methods:		Soldering:	3	Polishing:		Brazing:	2	Mechanical:		2	Oxy-acetylene welding:	1	Electrolytic/chemical:		3	Gas-shielded arc welding:	1	Galvanizing:		3	TIG welding:	1	Hot Dipping:		3	Hot Formability: 2		MIG welding:	1			Cold Formability: 3		Spot/seam welding	1			Corrosion resistance:		Butt welding	2			Gluing/adhesion:	2			Atmosphere:	2			Waters and alkaline:	2			Acids, Ammonia, Seawater: 1					
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¹Information extracted from Kunftverband:																																																																											

Tolerances for Tubes for Air Conditioning and Refrigeration of CW024A

Dimensions: EN 12735-1:2010*

Tolerances on outside diameter

Nominal diameter d (mm)	Tolerances on nominal diameter (mm)		
	Applicable to mean diameter (all material conditions)	Applicable to any diameter	
		R290 (hard)	R250 (half hard)
$3 \leq d \leq 18$	$\pm 0,04$	$\pm 0,04$	$\pm 0,09$
$18 < d \leq 28$	$\pm 0,05$	$\pm 0,06$	$\pm 0,10$
$28 \leq d \leq 54$	$\pm 0,06$	$\pm 0,07$	$\pm 0,11$
$54 \leq d \leq 76,1$	$\pm 0,07$	$\pm 0,010$	$\pm 0,15$
$76,1 \leq d \leq 88,9$	$\pm 0,07$	$\pm 0,15$	$\pm 0,20$
$88,9 \leq d \leq 108$	$\pm 0,07$	$\pm 0,20$	$\pm 0,30$
$108 \leq d \leq 133$	$\pm 0,20$	$\pm 0,70$	-

* Values are referred from Table 3 of EN 12735-1:2010

Dimensions: EN 12735-1:2010*

Tolerances on wall thickness

Nominal outside diameter d (mm)	Tolerances on wall thickness e	
	$e < 1$ mm %	$e \geq 1$ mm %
< 18	± 10	± 13
≥ 18	± 10	$\pm 15^*$

* $\pm 10\%$ for R250 (half hard) tubes of 35, 42 and 54 mm diameter, with wall thickness of 1,2 mm.

* Values are referred from Table 4 of EN 12735-1:2010

Dimensions: EN 12735-1:2010*

Tolerances on length

The lengths shall be equal to or greater than those ordered.

* Values are referred from Section 6.3.5 of EN 12735-1:2010