

# ZOLLERN

Solid metals. Fine solutions.

Sand Casting and Forging  
Aviation





# Component solutions. For the aviation industry.

ZOLLERN offers sophisticated component solutions in copper materials for the aviation industry. From the smelting of the raw material and casting processes right through to the pre-finished component with destructive or non-destructive testing, all stages of production take place within our plant.

## **ZOLLERN semi-finished products for aviation**

- Forged round rods
- Drawn, extruded rods
- Centrifuge cast bushings, up to 500 mm length
- Rolled steel rings

## **Applications**

- Landing flaps
- Landing gear

## **Highest quality material**

- Excellent sliding behaviour
- High degree of wear resistance
- Excellent endurance limits

# Modern processes.

300 years of experience.



Melting



Processing



Finishing



Checking



# Casting and forging. Quality and workmanship.

ZOLLERN is a pioneer in the manufacturing and processing of copper-aluminium bronzes. ZOLLERN built its first iron-works 300 years ago, the bronze foundry went into operation in the year 1890. ZOLLERN has continued to develop ever since and is now successful around the world.

## **Sand casting and forging – processes**

- Centrifuge casting
- Extrusion
- Semi-finished forged products
- Heat treatment
- Processing
- In-house laboratory testing

## **Production in accordance with standards**

- AMS 4881
- AMS 4880
- AMS 4640
- BSB23
- UZ19A6



# ZOLLERN copper materials for the aviation industry.

## // Material properties

Material	Standard	Yield strength	Tensile strength	Elongation	Hardness	
					HB	HRC
		Rp0.2 N/mm <sup>2</sup>	Rm N/mm <sup>2</sup>	A %	HB	HRC
NFL 14707	CuZn <sub>19</sub> Al <sub>6</sub> (Mn5Fe3)	540	780	7	225	
CW307G EN 12420	CuAl <sub>10</sub> Ni <sub>5</sub> Fe <sub>4</sub>	330	700	15	170 HB	
CW307G <= 100 mm	CuAl <sub>10</sub> Ni <sub>5</sub> Fe <sub>4</sub>	390	750	14	200 HB	
CW308G EN 12420	CuAl <sub>11</sub> Fe <sub>6</sub> Ni <sub>6</sub>	410	740	4	210 HB	
ASTM C630	~ CuAl <sub>10</sub> Ni <sub>5</sub> Fe <sub>3</sub>	295	585	10		-
BS 2B 23	~ CuAl <sub>10</sub> Ni <sub>5</sub> Fe <sub>5</sub>	350	700	14	179-255 HB	
ASM 4590C	CuAl <sub>10.5</sub> Ni <sub>5.1</sub> Fe <sub>4.8</sub>	621	896	6	26 HRC	
ASM 4640H	CuAl <sub>10.0</sub> Ni <sub>4.8</sub> Fe <sub>3.0</sub>	345	689	10	183-241HB	
ASM 4880D	CuAl <sub>10.3</sub> Ni <sub>5.0</sub> Fe <sub>2.8</sub>	345	655	8		-
ASM 4881D	CuAl <sub>11.0</sub> Ni <sub>5.1</sub> Fe <sub>4.8</sub>	655	896	3	28 HRC	



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