

# ER4043

## DIN 3.2245, EN ISO 18273 S Al 4043 (AISI5)



### Wire

#### ❖ Key Features

- Excellent machinability
- Excellent formability
- Good strength
- Good corrosion resistance properties

#### ❖ Applications

- Bicycle Trucks
- Trailers
- Automotive

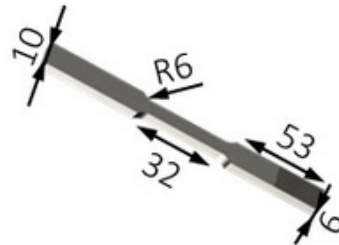


### Chemical Composition

Element	Si	Fe	Cu	Mn	Mg	Cr	Zn	Al
Weight Percent (Wt.%)	5	0.1	0.001	0.05	0.03	0.001	0.003	Bal



### Mechanical Properties [1]

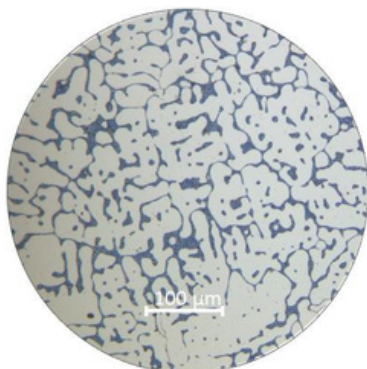


\*Test Standard used ASTM E8

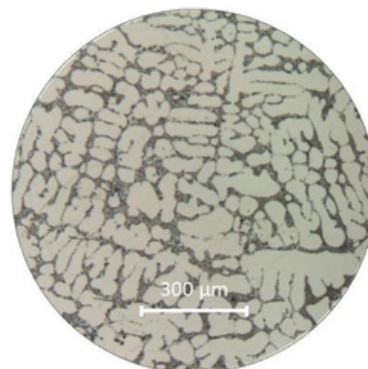
Material	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (HV)	Hardness (HB)
MetalWorm WAAM ER4043	152@ LD [2] 157@ ND [3]	93@ LD 94@ ND	19@ LD 23@ ND	45	39
As cast Al-Si alloy [4]	127	120	10.7	N/A	N/A



### Microstructure



WAAM ER4043 @ MetalWorm



As cast Al-Si alloy [5]

The microstructure of WAAM fabricated ER4043 is typical microstructure of Al-Si alloy. The dominant microstructure consists of primary aluminium dendrite ( $\alpha$ -Al) structure embedded in Al-Si eutectic.

[1] Tensile tests were carried out at room temperature, according to ASTM E8 standard with thickness of 6 mm and loading speed of 0.25 mm/s.

[2] LD corresponds to longitudinal or deposition direction.

[3] ND corresponds to normal or building direction.

[4] The data are taken from: [doi:10.3390/ma10070786](https://doi.org/10.3390/ma10070786)

[5] The image is taken from: [doi:10.3390/ma10070786](https://doi.org/10.3390/ma10070786)