



# DRAWN ALUMINIUM WIRE



## About Universal Metals

Universal Metals (Pvt.) Ltd manufactures EC-grade drawn aluminium wire from Al 1370 alloy ( $\geq 99.7\%$  Al) across 0.371 mm to 3.25 mm diameter. Our standard production covers quarter-hard (H12) and half-hard (H14) tempers, which are the most widely used grades for conductor stranding and cable manufacturing. We also produce annealed (O), three-quarter hard (H16), and fully hard-drawn (H19) tempers on request.

Conductivity of  $\geq 61.5\%$  IACS is maintained across all tempers, with tensile strength ranging from 60 MPa (annealed) to over 160 MPa (H19 hard-drawn). All properties are tested in our in-house laboratory.

## Applications

- AAC (All Aluminium Conductor) stranding
- ACSR aluminium strand component
- AAAC stranding wire
- Aerial Bundled Cable (ABC) conductor feedstock
- Building wire and LV cable conductors (annealed)
- Solar cable conductor stranding
- Aluminium winding wire for specialty transformers
- Overhead distribution line component wire

Mechanical and electrical properties by temper – EC Grade Aluminium Al 1370 ( $\geq 99.7\%$  Al)

<b>Temper</b>	<b>Designation</b>	<b>Tensile Str. (MPa)</b>	<b>Elongation (min)</b>	<b>Cond. (% IACS)</b>
Annealed	O	60 - 100	$\geq 25\%$	$\geq 61.8$
Quarter-Hard	H12	83 - 117	$\geq 20\%$	$\geq 61.5$
Half-Hard	H14	100 - 138	$\geq 15\%$	$\geq 61.5$
Three-Quarter Hard	H16	115 - 152	$\geq 6\%$	$\geq 61.3$
Hard Drawn	H19	$\geq 160$	$\geq 1.5\%$	$\geq 61.0$

Maximum DC resistance at 20°C for annealed EC grade aluminium wire ( $\geq 61.5\%$  IACS,  $\rho \leq 0.02803 \Omega \cdot \text{mm}^2/\text{m}$ )

Nom. Diameter (mm)	Cross Section (mm <sup>2</sup> )	DC Resistance ( $\Omega/\text{km}$ )	Diameter Tolerance (mm)
0.50	0.19635	142.8	$\pm 0.005$
0.80	0.50265	55.8	$\pm 0.008$
1.00	0.78540	35.7	$\pm 0.010$
1.25	1.22718	22.8	$\pm 0.013$
1.50	1.76715	15.9	$\pm 0.015$
2.00	3.14159	8.92	$\pm 0.020$
2.50	4.90874	5.71	$\pm 0.025$
3.00	7.06858	3.97	$\pm 0.030$
3.25	8.29588	3.39	$\pm 0.033$

Intermediate diameters available on request. All properties are tested in our in-house laboratory.

All drawn aluminium wire is supplied on corrugated cardboard octagonal spools.

Spool Model	Outer Dia. (mm)	Core Dia. (mm)	Height (mm)	Approx. Net Wt.
S650	φ800	φ480	1,100	Up to 1,000 kg
S800	φ1,100	φ601	1,100	Up to 1,000 kg