

# Busbars

## Specifications:

### Types of Busbars

- Flat
- Channel
- Tubular

### Specifications

Sr.No	Alloy Designation	Temper	Tensile Strength (Min)		0.2% Proof Stress (Min)		% Elongation on 50 mm (Min)	Electrical Conductivity at 20°C % IACS (Min)
			Mpa	Kg / mm <sup>2</sup>	Mpa	Kg / mm <sup>2</sup>		
1	IS 63401 / AA6101 / ALCAN D50S	WP / T6 (range 1)	170	17.34	135	13.77	12	56.5
2	IS 63401 / AA6101 / ALCAN D50S	WP / T6 (range 2)	200	20.40	170	17.34	10	55.0
3	IS 19501 / AA1050 / ALCAN C1S	M / F	60	6.12	—	—	25	60.0

Conforming to IS : 5082 : 1998

### Chemical Composition (%)

Alloy Designation	Copper (Cu)	Magnesium (Mg)	Silicon (Si)	Iron (Fe)	Manganese (Mn)	Zinc (Zn)	Titanium (Ti)	Chromium (Cr)	Others Each	Others Total	Aluminium
IS 63401 / AA6101 / ALCAN D50S	0.05	0.4 - 0.9	0.3 - 0.7	0.50	0.03	0.10	0.10	0.03	0.03	0.10	Remainder
IS 19501 / AA1050 / ALCAN C1S	0.04	—	0.15	0.35	0.02	0.02	—	0.02	0.03	0.10	99.50 (min.)

Note: Single figure shows maximum limit, unless specified.

### Busbar Flats: Bending radii based on thickness

Sr.No	Alloy Designation	Temper	Thickness (t)mm	Minimum Inside Bend Radius
1	IS 63401 / AA6101 / ALCAN D50S	WP (range 1)	3.0 to up to and including 9.5	1.0 x thickness (t)
2	IS 63401 / AA6101 / ALCAN D50S	WP (range 1)	Above 9.5 to 12.0	1.5 x thickness (t)
3	IS 63401 / AA6101 / ALCAN D50S	WP (range 2)	3.0 to up to and including 9.5	2.0 x thickness (t)
4	IS 63401 / AA6101 / ALCAN D50S	WP (range 2)	Above 9.5 to 12.0	2.5 x thickness (t)
5	IS 19501 / AA1050 / ALCAN C1S	M / F	Upto 12.0 max.	1.0 x thickness (t)

## Applications:

**Application Range of Hindalco Aluminium Busbars:** Switchgears, Busducts, Tubular Busbars for sub-stations and switchyards

**Dimension Range:** Flats- upto 368.3mm width, Channels- upto 292.1mm width, Tubular- upto 252.4mm OD.