



# HULAMIN

## ROLLED PRODUCTS

### 3003 Data Sheet

#### Chemical Composition

| %   | Si  | Fe  | Cu   | Mn  | Mg | Cr | Zn  | Ti | Others Each |       |
|-----|-----|-----|------|-----|----|----|-----|----|-------------|-------|
|     |     |     |      |     |    |    |     |    | Each        | Total |
| min | -   | -   | 0.05 | 1.0 |    |    |     |    |             |       |
| max | 0.6 | 0.7 | 0.2  | 1.5 | -  | -  | 0.1 | -  | 0.05        | 0.15  |

#### Mechanical Properties

| Temper | Thickness (mm) | YS, Rp0.2 (MPa) | UTS, Rm (MPa) | A50, (%) |
|--------|----------------|-----------------|---------------|----------|
| H14    | 0.63 - 1.2     | 115             | 140-180       | 3        |
|        | > 1.2 - 6.3    | 115             | 140-180       | 5        |
|        | > 6.3 - 25.0   | 115             | 1140-180      | 8        |

Note: Single numbers represent minimum values.

#### Recommended Minimum Bend Radii for 90 - Degree Cold Forming of Sheet

| Radii for various thicknesses expressed in terms of thickness "t" |        |        |        |        |        |        |       |
|---|--------|--------|--------|--------|--------|--------|-------|
| Temper  | 0.4 mm | 0.8 mm | 1.6 mm | 3.2 mm | 4.8 mm | 6.0 mm | 10 mm |
| H14   | 0t     | 0t     | 0t     | 1t     | 1t     | 1½t    | 2t    |

#### Physical Properties

| Property              | Value                   | Unit              |
|-----------------------|-------------------------|-------------------|
| Density               | 2.73                    | g/cm <sup>3</sup> |
| Melting Point         | 640-655                 | °C                |
| Thermal Conductivity  | 159                     | W/m.K             |
| Thermal Expansion     | 23.2 x 10 <sup>-6</sup> | /°C               |
| Resistivity           | 42                      | nΩ .m             |
| Modulus of Elasticity | 69                      | GPa               |
| Modulus of Rigidity   | 26.1                    | GPa               |

#### Formability

Good formability by pressing, drawing and roll forming

#### Weldability

Very Good

#### Corrosion Resistance

Very good resistance to Atmospheric Corrosion.

#### Applications

Cooking Utensils, Chemical Equipment, Builder's Hardware, Sheet Metal Work, Home Appliances, Storage Tanks.

#### Specifications

As per Active Product Menu (APM)