

# Alcan Rolled Products UK Falkirk

Sheet & Strip Products



Aluminium Alloy Data Sheet

## 5251

Sheet 1 of 1

### BRIEF DESCRIPTION

Medium strength material, high corrosion resistance particularly against sea-water; easy to form and weld. Lends itself to deep drawing with appropriate process treatment.

Typical applications include automotive body panels and deep drawn aerosol canisters.

### PROCESSING METHODS

#### Weldability :

TIG/MIG - excellent  
Resistance - excellent

#### Anodising Response :

Protective - excellent  
Decorative - not generally used

#### Forming :

Hot bending - excellent, though local softening would be expected in any temper other than soft.  
Cold bending - high at quarter hard, fair above (see bend radii)  
Deep draw - high up to quarter hard, not generally done in harder tempers  
Spinning - high up to quarter hard, not generally done in harder tempers

#### Machinability :

Moderate to poor

### CORROSION BEHAVIOUR

Good under normal weather conditions and in industrial and marine applications.

### TYPICAL PHYSICAL PROPERTIES

Density : 2.68 g/cm<sup>3</sup>  
Modulus of elasticity : 70,000 N/mm<sup>2</sup>  
Coefficient of linear thermal expansion (20-100°C) : 23.8 x 10<sup>-6</sup> K<sup>-1</sup>  
Thermal conductivity : 140-190 W/mK  
Specific electrical conductivity : 21-24 m/Ωmm<sup>2</sup> @ 20°C  
Melting Range : 610-650 °C

### PROPERTIES

#### Chemical Composition

	Si %	Fe %	Cu %	Mn %	Mg %	Cr %	Zn %	Ni %	Ti %
Max	0.40	0.50	0.15	0.50	2.4	0.15	0.15	-	0.15
Min				0.10	1.7				

Tolerances to EN 573-3 : 1994

#### Tensile Properties

Temper	Gauge (mm)		0.2 % Proof Stress Min. N/mm <sup>2</sup>	Tensile Strength N/mm <sup>2</sup>		Elongation on 50 mm %
	Over	Up To		Min	Max	
O/H111	0.2	0.5	60	160	200	13
	0.5	1.5				
	1.5	3				
H12	0.2	0.5	150	190	230	3
	0.5	1.5				
	1.5	3				
H14	0.2	0.5	170	210	250	2
	0.5	1.5				
	1.5	3				
H22	0.2	0.5	120	190	230	4
	0.5	1.5				
	1.5	3				
H24	0.2	0.5	140	210	250	3
	0.5	1.5				
	1.5	3				

Tolerances to EN 485-2 : 1994

#### Minimum Recommended 90° Bend Radii

Temper	Material Thickness (mm)		
	0.2 < t ≤ 0.5	0.5 < t ≤ 1.5	1.5 < t ≤ 3
O/H111	0t	0t	0.5t
H12	0t	1t	1t
H14	0.5t	1.5t	1.5t
H22	0t	1t	1t
H24	0.5t	1.5t	1.5t

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