Constellium HSA6®

High-Strength 6000-series Aluminium Alloy

Constellium HSA6® is ideally suited for the following automotive components:

- Crash Management Systems
- Battery Enclosures
- High-Strength Structures
- Side Impact Beams
- Longitudinals
- Body in White
- Towing Eye
- Windshield Header

Thanks to its properties, Constellium HSA6® offers the Design Engineer freedom to optimize extruded shapes and reduce wall thickness for weight reduction:

- Good formability in T4 condition
- Good corrosion resistance
- Good weldability
- 100% recyclable and highest possible content of post consumer scrap

High mechanical properties with Rp0.2 ≥ 340 MPa for extruded Crash Management Systems, Battery Enclosures and Body in White Structural components.

Chemical Composition (Weight %)

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Zr	Al
Min	0.7	0.1	0.3	0.3	0.7	0.05	-	-	0.1	
Max	1.1	0.5	0.8	0.9	1.1	0.2	0.2	0.1	0.2	Balance
Others: - Each: 0.05% = Total: 0.15% Ti +Zr = 0.2% max ≤ ≥										

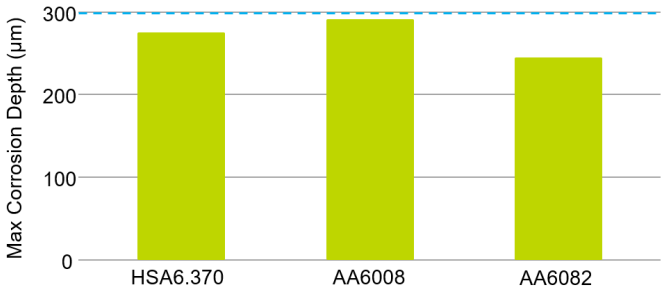
According to EN573-3

Mechanical Properties T6- Solution

	Profile	Rp0.2 (Mpa)	Rm(Mpa)	A(%)	Bending Angle for 2 mm (°)
HSA6.370 (Typical Rp0.2 at 370 Mpa)	Hollow Profile	340-390	370-420	≥ 10	≥ 50
	Solid Profile ≤ 20 mm	340-400	370 -420	≥ 10	≥ 50
HSA6.420 (Typical Rp0.2 at 420 Mpa)	Solid Profile > 20 mm	400-440	430-460	≥ 8	≥ 50

Specifications to be agreed depending on the shape of the profile

Typical IGC Performance following ISO11846B



Physical Properties

Property	Value
Density g/cm^3	2.72
Young's modules GPA	71
Th. Conductivity W/(m*K)	155 – 175
El. Conductivity MS/m	24 – 32
Coef. of thermal expansion 20-200°C – 10 $^{-6}$ 1/k	22 – 24

Generic Physical Properties

All values shown are representative only.
Each end use will be assessed on its own merits.