New Zealand Metal Roofing Manufacturers Association

Email admin@metalroofing.org.nz
www.metalroofing.org.nz

BA01 Required Temper for Aluminium Roof and Wall Cladding

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Aluminium comes in different strength grades, referred to as *temper.* Both the temper and the alloy affect the tensile strength of aluminium cladding, which affects both point load and distributed load performance.

Lower temper products are more easily formed without causing splitting, but the trade-off is a substantial lowering of tensile strength.

Code of Practice and Manufacturer's load/span literature is based on profiles run from Grade 5052 H36 material. Using material of a different grade or hardness may severely affect the performance of the cladding profile. People wishing to use alternative strength products must obtain performance data specific to the material being used.

Profiles requiring the use of H34 material include many trough and tray profiles, and corrugated and trapezoidal profiles being roll curved or crimp curved. H34 is also commonly used for rainwater goods and flashings, although most flashings, apart from those needing hems or soft edge, can be formed from Grade 5052 H36 aluminium.

Alternatives to soft edging are notched flashings or soft edge. They can be applied to a pre-formed flashing using double sided tape. Profiled foam closures can also be used to aid weathertightness, provided alternative pathways exist for passive ventilation of the ceiling space.

Aluminium Hardness End-use

Note: Typical stocking of 5052 alloy, H36 allows for rollforming both corrugate and trapezoidal profiles. Trough sections may require H34 material. H36 material can be used to manufacture most flashings, except those requiring soft edging or hemming.		
Alloy;	**Yield Minimum**	**Typical Use**
5005 – H32 Quarter Hard	85	Lockseam
5005 – H34 Half Hard	105	Folding
5052 – H32 Quarter Hard	160	Lockseam
5052 – H34 Half Hard	180	Folding and curving
5052 – H36 Three Quarters Hard	200	Rollforming and folding
5052 – Fully Hard220	220	Rollforming

Rod Newbold
Technical Consultant to NZ Metal Roofing Manufacturers Association
Editor Metal Roofing and Wall Cladding Code of Practice