

Northstar Metals Pty Ltd

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**NORTHSTAR**VICALUME SPECIFICATIONS

Issue	Date	Change
First issue	16 March 2012	
Second issue	20 April 2016	
Third issue	2 Feb 2020	

1. Scope

This specification provides the typical limits and tolerances on chemical, metallurgical and physical quality of 'VICALUME" - Pre- mix Aluminium- Zinc – Silicon- Alloy, as defined below:

Alloy Type	Ingot Size options (mm)	Ingot Weight (kg)
VM-001	1380 x 880 x 460	1650 kgs (+/-20)
VM-002	1000 x 800 x 640	1250 kgs (+/-20)
VM-003	1790 x 700 x 320	1000 kgs (+/-20)

Vicalume for your Galvalume

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**NORTHSTAR**

2. Chemical Composition Limits

Chemical composition is specified by the alloy code with defined composition limits as detailed below. Furnace charges are sampled and analysed according to methods based on ASTM Standards E716-94 and E1251-94.

Element	% (Percentage)
Al	54 ~ 56
Zn	42 ~ 44
Si	1.5 ~ 1.6
Fe	Less than 0.09
Mg	Less than 0.005
Mn	Less than 0.005
Cu	Less than 0.005
Pb	Less than 0.01
Ni	Less than 0.005
Sn + Ti	Less than 0.01
Cr	Less than 0.005
Others - each	0.03
Others - total	0.10

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**3. Metallurgical Quality**

The metal shall not contain any grain refining materials such as titanium dioxide. In addition no chlorine compounds shall be added to the product via degassing or fluxing.

4. Physical Quality

Ingots shall be free from internal defects such as pores, cavities and cracks and cast surface defects such as oxides and dross. Surfaces shall be free from adhered corrosion product and contaminants such as powders and hydrocarbons.

5. Documentation

On delivery of the Ingots, NMPL shall provide a manifest with the following items:

- Alloy designation
- Cast and lot number
- Total number and weight of bundles
- Chemical composition certificate

6. Packing and Marking

- 6.1. Ingots shall be fastened in a bundle with steel straps (zinc plated). The package shall be suitable for handling by forklift.
- 6.2. The alloy code and cast number shall be marked on each Ingot with metal stamps or self-adhesive labels.