



Particulars of the approval:

Grade:	Temper:	Thickness (mm)	Yield strength R _{p0.2} min. (N/mm ²)	Tensile strength R _m min. (N/mm ²)	Elongation, A _{5d} min. (%)
NV 5754	0, H111 ⁵⁾ , H32	Max. 40	1), 5)		
NV 5086	0, H111 ⁵⁾ , H116, H32 ⁵⁾	Max. 40	1), 5)		
NV 5083	H116, H321	Max. 40	1), 5)		
	0 ²⁾ , H111 ⁵⁾	Max. 50			
And NV 5383/ Hogal 5518 ⁴⁾	0, H111 ⁵⁾	50 < t ≤ 80	115	270	14
		80 < t ≤ 120	110	260	12
		120 < t ≤ 160	105	255	12
		160 < t ≤ 200	100	250	10
		200 < t ≤ 400 ³⁾	100	245	9
NV 5059	0, H111 ⁵⁾	Max. 40	1), 5)		
	H116, H321	Max. 40			
	"As welded", all temper conditions	Max. 40	160	300	-

- 1) In accordance with Det Norske Veritas' Rules for Classification Pt.2, Ch.2, Sec.9.
- 2) Including low temperature service for grade NV 5083-0 (with thickness max. 50 mm)
- 3) Delivered as preforged ingot as a special processing step for 300 < t ≤ 400.
- 4) Chemical composition and mechanical properties to be in accordance with the alloy NV 5383 as given by the DNV rules Pt.2, Ch.2, Sec.9.
- 5) The chemical composition is to be in accordance with the respective grade in DNV rules Pt. 2 Ch. 2 Sec. 9 Table A1 and the mechanical properties in accordance with EN 485-2 or other recognised standards.



DET NORSKE VERITAS

APPROVAL OF MANUFACTURER

CERTIFICATE

CERTIFICATE NO. AMM-3846

This is to certify that

Aleris Aluminum Koblenz GmbH
KOBLENZ, Germany

is an approved manufacturer of

Wrought Aluminium Alloys

in accordance with

Det Norske Veritas' Rules for Classification Pt. 2


and the following particulars:

Product	Sheets and plates
Grades	See page 2.
Max. thickness	See page 2.
Remarks	See page 2.

Place and date

Høvik, 2009-01-08


for DET NORSKE VERITAS AS


Hanne Anita Hjerpetjønn
Head of Section



Local Office
DNV Essen

This Certificate is valid until
2012-06-30


Sastry Yagnanna Kandukuri
Surveyor

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.