

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

ArcelorMittal Warszawa Sp. z o.o.
132, Kasprowicza Street, 01-949 Warszawa, Poland

is an approved manufacturer of
Steelmaking and Rolled Steel Products

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Product	Round bars for chain cable and machinery application
Grades	See page 2
Steelmaking	Electric arc furnace, Ingot or continuous casting
Deoxidation	Killed
Fine grain elements	Al
Delivery conditions	See page 2
Max. diameter.	See page 2

Manufacturer approved by this certificate is accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Høvik** on **2017-08-14**

for **DNV GL**

This Certificate is valid until **2020-06-30**.

DNV GL local station: **Katowice**

Approval Engineer: **Dechun Lou**

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Hanne Anita Hjerpetjønn
Head of Section



Job Id: **263.11-007814-1**
Certificate No: **AMMM00001M7**

Particulars of the approval:

Bars for chain cable				
Grade	Steelmaking ¹⁾	Fine grain element	Delivery conditions ²⁾	Max. diameter (mm)
VL K3	EAF, IC	Al	AR	150

Remarks:

¹⁾ EAF: Electric Arc Furnace; IC: Ingot Casting.

²⁾ AR: As Rolled.

Bars for machinery application				
Steel type	Steelmaking ¹⁾	Fine grain element	Delivery conditions ²⁾	Max. diameter (mm)
Carbon and carbon-manganese	EAF, IC	Al	N	150
	EAF, CC	Al	N	125 ³⁾
Alloy	EAF, IC	Al	QT	150
	EAF, CC	Al	QT	125 ³⁾

Remarks:

¹⁾ EAF: Electric Arc Furnace; IC: Ingot Casting; CC: Continuous Casting

²⁾ N: Normalised; QT: Quenched and Tempered.

³⁾ Minimum rolling reduction ratio 4:1