



Certificate No : MD00/3240/0007/1

**JIANGSU SHAGANG GROUP  
HUAIGANG SPECIAL STEEL CO., LTD  
No. 188 South Xi'an Road  
Huai'an City  
Jiangsu Province  
China, People's Republic of**

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for :-

**Steelmaking, Semi-Finished Products and Bars**

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials. The full details of the processes and grades to which this approval applies are given in the Appendix of this certificate.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

**Valid Until : 11 June 2021  
Date of Issue : 16 August 2018**

A handwritten signature in blue ink, appearing to read 'Clive Arnold', is written over a horizontal line.

**Clive Arnold**

Senior Metallurgical Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group



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Appendix 1

JIANGSU SHAGANG GROUP  
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<b>Steelmaking</b>	<b>B.O.S. / Con Cast</b>	<b>Grades</b>	
		As below	
<b>Steelmaking</b>	<b>E.A.F. / Con Cast</b>	<b>Grades</b>	
		As below	
<b>Semi-Finished Products</b>	<b>Blooms</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As cast	-	carbon, carbon-manganese	200.0
<b>Semi-Finished Products</b>	<b>Billets</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As cast	-	carbon, carbon-manganese	150.0
<b>Semi-Finished Products</b>	<b>Bars</b>	<b>Grades</b>	<b>mm diameter Maximum</b>
As cast	-	carbon, carbon-manganese	500.0
<b>Bars</b>	<b>Structural</b>	<b>Grades</b>	<b>mm diameter Maximum</b>
As Rolled	Fine Grain Al	carbon, carbon-manganese	100.0
As Rolled	Killed	carbon, carbon-manganese	100.0
<b>Bars</b>	<b>Machinery</b>	<b>Grades</b>	<b>mm diameter Maximum</b>
As Rolled	Fine Grain Al	carbon, carbon-manganese	100.0
As Rolled	Killed	carbon, carbon-manganese	100.0
<b>Bars</b>	<b>Chain Cable Stock</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	Fine Grain Al+Ti	U3	210.0
As Rolled	Fine Grain Al	U2	140.0

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The approval for rolled bars over 60mm diameter is for steel manufactured by the B.O.S. / Con Cast route.

Bars for chain cable stock are intended for final heat treated conditions; Grade U2 normalized; Grade U3 quenched and tempered.

Chain cable stock bars may be accepted up to 250mm diameter may be accepted for further processing for forged chain cable fittings.

Blooms, billets and bars as semi finished-products are approved for further processing for rolled products; blooms nominal maximum width 200mm x nominal maximum length 12000mm; billets nominal maximum width 150mm x nominal maximum length 12000mm; bars nominal maximum length 12000mm; to the above maximum thicknesses.

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