

**Certificate No : MD00/3258/0015/1**  
**Appendix 1**  
**XISC - HUNAN VALIN XIANGTAN**  
**IRON & STEEL CO., LTD.**  
**Yuetang District,**  
**Xiangtan City,**  
**Hunan Province,**  
**China, People's Republic of**

<b>Steelmaking</b>	<b>B.O.S./Ingot/Con Cast</b>	<b>Grades</b>	
		As below	
<b>Semi-Finished Products</b>	<b>Slabs</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
-	-	carbon, carbon-manganese, alloy	300.0
<b>Plates</b>	<b>Normal Strength</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	-	A, B	40.0
Normalized	Fine Grain Al+Nb	A, B, D, E	100.0
Normalized	Fine Grain Al+Nb+Ti	A, B, D, E	150.0
Normalized	Fine Grain Al	A, B	60.0
Normalizing Rolled	Fine Grain Al	A, B, D	40.0
TM+Acc	Fine Grain Al+Nb	A, B, D, E	40.0
TM+Acc	Fine Grain Al	A, B, D, E	40.0
<b>Plates</b>	<b>Higher Strength</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	Fine Grain Al	AH32	35.0
Normalized	Fine Grain Al+Nb+V+Ti	AH27S, AH32, AH36, DH27S, DH32, DH36, EH27S, EH32, EH36	150.0
Normalized	Fine Grain Al+Nb+Ti	FH27S, FH32, FH36	60.0
Normalized	Fine Grain Al+Nb+Ti	AH27S, AH32, AH36, DH27S, DH32, DH36, EH27S, EH32, EH36	100.0
Normalizing Rolled	Fine Grain Al	AH27S, AH32, AH36, DH27S, DH32, DH36	40.0
Quenched and Tempered	Fine Grain Al+Nb+Ti	AH42, AH46, AH50, AH55, DH42, DH46, DH50, DH55, EH42, EH46, EH50, EH55	50.0
Quenched and Tempered	Fine Grain Al+Nb+V+Ti+B	AH62, AH69, DH62, DH69, EH62, EH69*	50.0
TM+Acc	Fine Grain Al+Nb	AH27S, AH32, AH36, DH27S, DH32, DH36, EH27S, EH32, EH36	40.0

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Appendix 2

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<b>Plates</b>	<b>Higher Strength</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
TM+Acc	Fine Grain Al+Nb+Ti	AH27S, DH27S, EH27S, FH27S, FH32, FH36, FH40	40.0
TM+Acc	Fine Grain Al+Nb+Ti	EH47	80.0
TM+Acc	Fine Grain Al+Nb+Ti	AH32, AH36, AH40, DH32, DH36, DH40, EH32, EH36, EH40	90.0
TM+Acc	Fine Grain Al	AH27S, AH32, DH27S, DH32	40.0
<b>Plates</b>	<b>Boiler &amp; Pressure Vessel</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
Normalized	Fine Grain Al+Nb	360FG, 410FG	100.0
Normalized	Fine Grain Al+Nb+V+Ti	360FG, 410FG, 460FG, 490FG, 510FG	100.0
Normalized	Fine Grain Al+Nb+Ti	360FG, 410FG, 460FG, 490FG, 510FG	100.0
Normalizing Rolled	Fine Grain Al	360FG, 410FG, 460FG, 490FG, 510FG	40.0
<b>Plates</b>	<b>Ferritic Low Temperature</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
TM+Acc	Fine Grain Al+Nb+Ti	LTAH32, LTAH36, LTAH40, LTDH32, LTDH36, LTDH40, LTEH32, LTEH36, LTEH40, LTFH32, LTFH36, LTFH40	40.0

Plate thicknesses greater than 100mm are approved via ingot casting route only.

Approved for Z25 & Z35 grades.

\* Maximum approved welding heat input in fabrication is 3.0 kJ/mm.

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

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

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.

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