



## Materials Quality Scheme

<b>Manufacturer</b>	<b>Ilseburger Grobblech GmbH</b>
<b>Address</b>	Veckenstedter Weg 10, Ilseburg, 38871, Germany
<b>Type</b>	Plates
<b>Scope of Approval</b>	<b>Materials Quality Scheme No. 057</b> <b>Steel Plates</b> <b>Plates: Normal Strength, Higher Strength, Boiler and Pressure Vessel, Ferritic Low Temperature and Austenitic Stainless Steel, details as per Appendix.</b>

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 on subsequent pages of this certificate.

This certificate is issued to the named manufacturer, and is valid until the expiry date specified. Lloyd's Register is to be notified of any change that may affect the validity of this certificate, and reserves the right to cancel or withdraw this certificate.



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**Clive Arnold**

Lead Metallurgist: Metallurgical Assurance to  
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## Materials Quality Scheme

Plates	Normal Strength	Grades	Maximum Thickness	Units
Normalizing Rolled	Fine Grain Al	A	40.00	mm
Normalizing Rolled	Fine Grain Al	D , B	22.00	mm
Normalized	Fine Grain Al	A	150.00	mm
Normalized	Fine Grain Al	E, D, B	85.00	mm
Normalized	Fine Grain Al+Nb	E , D	85.00	mm
Plates	Higher Strength	Grades	Maximum Thickness	Units
Thermo Mechanical	Fine Grain Al+Nb+V	FH36, EH36, DH36, AH36, FH32, EH32, DH32, AH32, FH27S, EH27S, DH27S, AH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	EH40, DH40, AH40	50.00	mm
Normalizing Rolled	Fine Grain Al	EH36, DH36, AH36, EH32, DH32, AH32, EH27S, DH27S, AH27S	40.00	mm
Normalizing Rolled	Fine Grain Al+V	EH36, DH36, AH36, EH32, DH32, AH32, EH27S, DH27S, AH27S	40.00	mm
Normalizing Rolled	Fine Grain Al+Nb	EH36, DH36, AH36, EH32, DH32, AH32, EH27S, DH27S, AH27S	40.00	mm
Normalized	Fine Grain Al	AH36	100.00	mm
Normalized	Fine Grain Al	EH32, DH32, AH32, EH27S, DH27S, AH27S	100.00	mm
Normalized	Fine Grain Al	FH32 , FH27S	36.00	mm
Normalized	Fine Grain Al	FH36, EH36, DH36	24.00	mm
Normalized	Fine Grain Al+V	EH36, DH36, AH36, EH32, DH32, AH32, EH27S, DH27S, AH27S	100.00	mm
Normalized	Fine Grain Al+V	FH36, FH32, FH27S	36.00	mm



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Normalized	Fine Grain Al+Nb+V+Ti	FH40, EH40, DH40, AH40, FH36, EH36, DH36, AH36, FH32, EH32, DH32, AH32, FH27S, EH27S, DH27S, AH27S	80.00	mm
Normalized	Fine Grain Al+Nb	EH36, DH36, AH36, EH32, DH32, AH32, EH27S, DH27S, AH27S	100.00	mm
Normalized	Fine Grain Al+Nb	FH36, FH32, FH27S	36.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	FH40, EH40, DH40, AH40	100.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V+Ti	FH40, EH40, DH40, AH40, FH36, EH36, DH36, AH36, FH32, EH32, DH32, AH32, FH27S, EH27S, DH27S, AH27S	100.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	EH40, DH40, AH40	50.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	FH36, EH36, DH36, AH36, FH32, EH32, DH32, AH32, FH27S, EH27S, DH27S, AH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	FH36, EH36, DH36, AH36, FH32, EH32, DH32, AH32, FH27S, EH27S, DH27S, AH27S	120.00	mm
<b>Plates</b>	<b>Boiler and Pressure Vessel</b>	<b>Grades</b>	<b>Maximum Thickness</b>	<b>Units</b>
Normalizing Rolled	Fine Grain Al	510FG, 490FG, 460FG, 410FG, 360FG	40.00	mm
Normalizing Rolled	Fine Grain Al+V	510FG, 490FG, 460FG, 410FG, 360FG	40.00	mm



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Normalizing Rolled	Fine Grain Al+Nb	510FG, 490FG, 460FG, 410FG, 360FG	40.00	mm
Normalized	Killed	490, 460, 410, 360	100.00	mm
Normalized	Fine Grain Al	510FG, 490FG, 460FG, 410FG, 360FG	100.00	mm
Normalized	Fine Grain Al+Nb+V+Ti	510FG, 490FG, 460FG, 410FG, 360FG	80.00	mm
Normalized	Fine Grain Al+Nb	510FG, 490FG, 460FG, 410FG, 360FG	100.00	mm
As Rolled	Killed	460AR, 410AR, 360AR	40.00	mm
Normalizing Rolled	Killed	410, 360	40.00	mm

Plates	Ferritic Low Temperature	Grades	Maximum Thickness	Units
Normalizing Rolled	Fine Grain Al	LTAH27S	36.00	mm
Normalizing Rolled	Fine Grain Al	LTDH27S	36.00	mm
Normalizing Rolled	Fine Grain Al	LTDH36, LTAH36, LTDH32, LTAH32	36.00	mm
Normalizing Rolled	Fine Grain Al+V	LTAH27S	36.00	mm
Normalizing Rolled	Fine Grain Al+V	LTDH27S	36.00	mm
Normalizing Rolled	Fine Grain Al+V	LTDH36, LTAH36, LTDH32, LTAH32	36.00	mm
Normalizing Rolled	Fine Grain Al+Nb	LTAH27S	36.00	mm
Normalizing Rolled	Fine Grain Al+Nb	LTDH27S	36.00	mm
Quenched and Tempered	Fine Grain Al	9Ni	50.00	mm
Normalizing Rolled	Fine Grain Al+Nb	LTDH36, LTAH36, LTDH32, LTAH32	36.00	mm
Normalized	Fine Grain Al	LTDH27S	100.00	mm
Normalized	Fine Grain Al	LTEH27S	100.00	mm
Normalized	Fine Grain Al	LTEH32, LTDH32, LTAH32	100.00	mm



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Normalized	Fine Grain Al	LTFH27S	24.00	mm
Normalized	Fine Grain Al	LTFH36, LTEH36, LTDH36, LTAH36, LTFH32	24.00	mm
Normalized	Fine Grain Al+V	LTAH27S	100.00	mm
Normalized	Fine Grain Al+V	LTDH27S	100.00	mm
Normalized	Fine Grain Al+V	LTEH27S	100.00	mm
Normalized	Fine Grain Al	LTAH27S	100.00	mm
Quenched and Tempered	Fine Grain Al	5Ni	50.00	mm
Quenched and Tempered	Fine Grain Al	1.5Ni	50.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTAH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTDH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTEH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTFH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTFH36, LTEH36, LTDH36, LTAH36, LTFH32, LTEH32, LTDH32, LTAH32	120.00	mm
Thermo Mechanical	Fine Grain Al+V+Ti	LTEH40, LTDH40, LTAH40	50.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTAH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTDH27S	120.00	mm
Normalized	Fine Grain Al+V	LTEH36, LTDH36, LTAH36, LTEH32, LTDH32, LTAH32	100.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTEH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTFH36, LTEH36, LTDH36, LTAH36, LTFH32, LTEH32, LTDH32, LTAH32	120.00	mm



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Thermo Mechanical	Fine Grain Al+Nb+Ti	LTEH40, LTDH40, LTAH40	50.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTEH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTAH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTDH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTFH27S	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTFH36, LTEH36, LTDH36, LTAH36, LTFH32, LTEH32, LTDH32, LTAH32	120.00	mm
Thermo Mechanical	Fine Grain Al+Nb+V	LTEH40, LTDH40, LTAH40	50.00	mm
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTFH27S	120.00	mm
Quenched and Tempered	Fine Grain Al	3.5Ni	50.00	mm
Normalized	Fine Grain Al+V	LTFH27S	24.00	mm
Normalized	Fine Grain Al+V	1.5Ni	15.00	mm
Normalized	Fine Grain Al+V	LTFH36 , LTFH32	24.00	mm
Normalized	Fine Grain Al+V	3.5Ni	15.00	mm
Normalized	Fine Grain Al+V	5Ni	15.00	mm
Normalized	Fine Grain Al+Nb	LTAH27S	100.00	mm
Normalized	Fine Grain Al+Nb	LTDH27S	100.00	mm
Normalized	Fine Grain Al+Nb	LTEH27S	100.00	mm
Normalized	Fine Grain Al+Nb	LTEH36, LTDH36, LTAH36, LTEH32, LTDH32, LTAH32	100.00	mm
Normalized	Fine Grain Al+Nb	LTFH27S	24.00	mm
Normalized	Fine Grain Al+Nb	LTFH36 , LTFH32	24.00	mm
2x Normalized & Tempered	Fine Grain Al	9Ni	15.00	mm

**Plates                      Austenitic Stainless      Grades                      Maximum Thickness      Units**



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Solution Treated - 316L 80.00 mm

### Additional Remarks

**All plates with specified through thickness properties.**

**Company also approved under Materials Survey Scheme, separate approval certificate applies.**



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