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## Approved Manufacturer of Steel Plates, Strip, Sections & Bars

| Manufacturer      | PJSC "AZOVSTAL IRON & STEEL WORKS"   |  |  |  |
|-------------------|--|--|--|--|
| Address           | 1, Leporsky St., Mariupol 87500, Ukraine   |  |  |  |
| Туре              | Plates   |  |  |  |
|                   | Steel Making   |  |  |  |
|                   | Semi-Finished Products   |  |  |  |
| Scope of Approval | Steelmaking, Semi-Finished Products, Plates  |  |  |  |
|                   | Steelmaking: B.O.S / Con Cast. Semi-Finished Products: Slabs   |  |  |  |
|                   | Plates, Normal Strength, Higher Strength, Boiler and Pressure Vessel<br>grades. Details as per Appendix. |  |  |  |
|                   | Approval includes plates with specified through thickness properties to                                  |  |  |  |

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.

Approval Notes Previous Lloyd's Register reference No. 0779.

Z25 and Z35 specifications.



Lead Metallurgist: Metallurgical Assurance to Lloyd's Register EMEA A member of the Lloyd's Register group

**Clive Arnold** 

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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| Plates                   | Higher Strength               | Grades   | Maximum Thickness | Units |
|--------------------------|-------------------------------|--|-------------------|-------|
| Thermo Mechanical        | Fine Grain Al+Nb+Ti           | EH36, DH36, AH36,<br>EH32, DH32, AH32,<br>EH27S, DH27S, AH27S                | 30.00             | mm    |
| Quenched and<br>Tempered | Fine Grain Al+V               | EH40, DH40, AH40   | 50.00             | mm    |
| Quenched and<br>Tempered | Fine Grain Al+Nb              | EH36, DH36, AH36   | 50.00             | mm    |
| Normalizing Rolled       | Fine Grain Al+Nb              | DH36, AH36, DH32,<br>AH32, DH27S, AH27S                                      | 20.00             | mm    |
| Normalized               | Fine Grain Al                 | EH36, DH36, AH36,<br>EH32, DH32, AH32,<br>EH27S, DH27S, AH27S                | 50.00             | mm    |
| Normalized               | Fine Grain Al+V               | EH40, DH40, AH40,<br>DH36, AH36, EH32,<br>DH32, AH32, EH27S,<br>DH27S, AH27S | 50.00             | mm    |
| Normalized               | Fine Grain Al+Nb+V            | EH36, DH36, AH36,<br>EH32, DH32, AH32,<br>EH27S, DH27S, AH27S                | 50.00             | mm    |
| Normalized               | Fine Grain Al+Nb              | EH36, DH36, AH36,<br>EH32, DH32, AH32,<br>EH27S, DH27S, AH27S                | 50.00             | mm    |
| Normalizing Rolled       | Fine Grain Al+Nb+V            | DH36, AH36, DH32,<br>AH32, DH27S, AH27S                                      | 50.00             | mm    |
| Normalized               | Fine Grain Al+V               | EH36   | 50.00             | mm    |
| Plates                   | Boiler and Pressure<br>Vessel | Grades   | Maximum Thickness | Units |
| Normalizing Rolled       | Fine Grain Al                 | 410FG, 360FG   | 50.00             | mm    |
| Normalizing Rolled       | Fine Grain Al+Nb+V            | 510FG, 490FG, 460FG,<br>410FG, 360FG   | 50.00             | mm    |
| Normalizing Rolled       | Fine Grain Al+Nb              | 510FG, 490FG, 460FG,<br>410FG, 360FG   | 20.00             | mm    |



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| Normalized                | Killed             | 410, 360                             | 50.00             | mm    |
|---------------------------|--------------------|--------------------------------------|-------------------|-------|
| Normalized                | Fine Grain Al      | 510FG, 490FG, 460FG,<br>410FG, 360FG | 50.00             | mm    |
| Normalized                | Fine Grain Al+V    | 510FG, 490FG, 460FG,<br>410FG, 360FG | 50.00             | mm    |
| Normalized                | Fine Grain Al+Nb+V | 510FG, 490FG, 460FG,<br>410FG, 360FG | 50.00             | mm    |
| Normalized                | Fine Grain Al+Nb   | 510FG, 490FG, 460FG,<br>410FG, 360FG | 50.00             | mm    |
| Plates                    | Normal Strength    | Grades                               | Maximum Thickness | Units |
| Normalizing Rolled        | Fine Grain Al      | D, B, A                              | 50.00             | mm    |
| Normalized                | Killed             | A                                    | 50.00             | mm    |
| Normalized                | Fine Grain Al      | В, А                                 | 100.00            | mm    |
| Normalized                | Fine Grain Al      | E, D                                 | 50.00             | mm    |
| Semi-Finished<br>Products | Slabs              | Grades                               | Maximum Thickness | Units |
| -                         | -                  | Higher Strength                      | 270.00            | mm    |
| -                         | -                  | Normal Strength                      | 270.00            | mm    |
| Steel making              | B.O.S. / Con Cast  | Grades                               | N/A               | Units |
| -                         | -                  | carbon, carbon<br>manganese          | 1.00              | N/A   |



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