



五矿营口中板有限责任公司  
MINMETALS YINGKOU MEDIUM PLATE CO.,LTD.  
辽宁省营口市老边区冶金街/115005  
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产品质量证明书  
INSPECTION CERTIFICATE



|                       |                     |                            |                          |                       |            |
|-----------------------|---------------------|----------------------------|--------------------------|-----------------------|------------|
| 订货单位<br>PURCHASER     | CUMIC STEEL LIMITED | 产品名称<br>PRODUCT            | 船用钢板<br>Hull Steel plate |                       |            |
| 收货单位<br>CONSIGNEE     | CUMIC STEEL LIMITED | 合同编号<br>CONTRACT NO.       | YGR1ZANN201227014-Q3     |                       |            |
| 技术标准/牌号<br>SPEC/GRADE | LR RULES; LRB       | 交货状态<br>DELIVERY CONDITION | 正火轧制(NR)                 | 签发日期<br>DATE OF ISSUE | 20210219   |
|                       |                     | 证明书编号<br>CERTIFICATE NO.   | 210219Z00518             | 控制号<br>CONTROL NUMBER | DLN2110034 |
| 车号<br>TRAIN NO.       |                     | 船号<br>HULL NO.             |                          |                       |            |

| 炉号<br>HEAT NO. | 批号<br>LOT NO. | 分段号<br>SECTION NO. | 规格<br>(MM)<br>DIMENSION | 数量<br>QTY | 重量<br>WEIGHT<br>kg | 化学成分<br>CHEMICAL ANALYSIS % |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |     | B<br>0A01<br>屈服<br>强度<br>MPa<br>ReH | B<br>0A02<br>抗<br>拉<br>强度<br>MPa<br>Rm | B<br>0A03<br>断后<br>伸长<br>率<br>% | A<br>0C01<br>冲击<br>单<br>值<br>A<br>J | A<br>0C012<br>冲击<br>单<br>值<br>B<br>J | A<br>0C013<br>冲击<br>单<br>值<br>C<br>J | A<br>0C02<br>冲击<br>均<br>值<br>Ave<br>J |
|----------------|---------------|--------------------|-------------------------|-----------|--------------------|-----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----|-------------------------------------|--|---------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
|                |               |                    |                         |           |                    | C                           | Si               | Mn               | P                | S                | Als              | Ti               | Nb               | Ni               | Cr               | Cu               | Mo               | CeqA             |     |                                     |  |                                 |                                     |                                      |                                      |                                       |
|                |               |                    |                         |           |                    | $\times 10^{-2}$            | $\times 10^{-2}$ | $\times 10^{-2}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-4}$ | $\times 10^{-4}$ | $\times 10^{-4}$ | $\times 10^{-3}$ | $\times 10^{-3}$ | $\times 10^{-4}$ | $\times 10^{-2}$ |     |                                     |  |                                 |                                     |                                      |                                      |                                       |
| 21103007A      | S12120054     |                    | 6x2440x12000            | 25        | 34,475             | 17                          | 19               | 64               | 19               | 7                | 2.9              | 140              | 30               | 280              | 53               | 11               | 10               | 27               | 362 | 474                                 | 33.5                                   | 52                              | 51                                  | 46                                   | 50                                   |                                       |
| 21103007A      | S12120055     |                    | 6x2440x12000            | 11        | 15,169             | 17                          | 19               | 64               | 19               | 7                | 2.9              | 140              | 30               | 280              | 53               | 11               | 10               | 27               | 386 | 479                                 | 32.5                                   | 65                              | 59                                  | 65                                   | 63                                   |                                       |
| 21103011A      | S12120056     |                    | 6x2440x12000            | 5         | 6,895              | 16                          | 18               | 64               | 19               | 15               | 3.9              | 140              | 30               | 290              | 44               | 11               | 20               | 27               | 387 | 474                                 | 37.5                                   | 57                              | 56                                  | 58                                   | 57                                   |                                       |
|                |               |                    | 合计(TOTAL):              | 41        | 56,539             |                             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |     |                                     |  |                                 |                                     |                                      |                                      |                                       |

注释  
NOTES

A.A: ANALYSIS REGION  
L: 熔炼成分 SMELTING COMPOSITION  
拉伸标距(GAUGE LENGTH) Lo=5.65√S0 mm  
A0C01冲击试验IMPACT TEST: 0℃, 纵向LONGITUDINAL,  
近表 CLOSE TO SURFACE, 尺寸SIZE10\*5\*55  
B0A01=YIELD STRENGTH  
B0A02=TENSILE STRENGTH

B0A03=ELONGATION  
A0C01=IMPACT TEST A  
A0C012=IMPACT TEST B  
A0C013=IMPACT TEST C  
A0C02=IMPACT AVERAGE

According to EN 10204 3.1

我们在此证明此材料采用已被认可的方法制造, 并且经检验符合LR船级社规范的要求。  
We hereby certify, that the material has been made by an approved process and satisfactorily tested in accordance with the Rules of Lloyd's Register.

冶金技术处处长  
DIRECTOR OF METALLURGICAL DEPARTMENT

验船师  
SURVEYOR

野牛  
Lloyd's Register