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| CUSTOMER NAME: | SHANGHAI BEIMING HIGH STRENGTH STEEL PLATE CO.,LTD |
|----------------|--|
| ADDRESS: | ROOM 1203-1208,NO.2 BUILDING,YONGJIN INTERNATIONAL PLAZA |
| | LANE 1518,YOUYI ROAD,BAOSHAN DISTRICT,SHANGHAI,CHINA |

The following sample(s) was/ were submitted and identified on behalf of the client as:

| Sample Name | : | Round Steel |
|-----------------------|---|--|
| Product Specification | : | 1#-130/2#-140/3#-180/4#-190/5#-210 |
| Product or Lot No. | : | 1#-130 1309-02593/41403-0636;2#-140 2305-10597/41312-0734; |
| | | 3#-180 1309-01795/41403-0038;4#-190 2305-14459/41403-0263; |
| | | 5#-210 2305-13709/41402-0652 |
| Manufacturer | : | HUAI STEEL |
| Buyer | : | HUAI STEEL |
| Material and Mark | : | Q345D |
| Test Required | : | Tensile Test, Impact Test |
| Date of Receipt | : | May 08, 2014 |
| Testing Start Date | : | May 08, 2014 |
| Testing End Date | : | May 14, 2014 |
| Test result(s) | : | For further details, please refer to the following page(s) |
| | | |

Signed for SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

ant

Kant Xu Authorized signatory



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1.Tensile Test:

Test Method: GB/T 228.1-2010

| Test item | Specimen type | Tensile strength (R _m) (MPa) | Yield strength (R _{eL}) (MPa) | Elongation after fracture(A) L _o =5d (%) | Conclusion |
|-----------|-------------------|---|--|--|------------|
| Req. | - | 450~600 | ≥285 | ≥19 | - |
| Result-1# | Round specimen | 562 | 359 | 29.0 | Pass |
| Result-2# | Round specimen | 530 | 343 | 32.0 | Pass |

Note: The results comply with the requirement of GB/T 1591-2008 type Q345D (100mm < t≤150mm).

| Test item | Specimen type | Tensile strength (R _m) (MPa) | Yield strength (R _{eL}) (MPa) | Elongation after fracture(A) L _o =5d (%) | Conclusion |
|-----------|-------------------|---|--|--|------------|
| Req. | - | 450~600 | ≥275 | ≥18 | - |
| Result-3# | Round specimen | 554 | 343 | 31.0 | Pass |
| Result-4# | Round specimen | 539 | (R _{p0.2}) 326 | 34.0 | Pass |

Note: The results comply with the requirement of GB/T 1591-2008 typeQ345D (150mm < t≤200mm).



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| Test item | Specimen type | Tensile strength (R _m) (MPa) | Proof strength (R _{p0.2}) (MPa) | Elongation after fracture(A) L _o =5d (%) | Conclusion |
|-----------|----------------|---|--|--|------------|
| Req. | - | 450~600 | ≥265 | ≥18 | - |
| Result-5# | Round specimen | 549 | 331 | 31.0 | Pass |

Note: The results comply with the requirement of GB/T 1591-2008 typeQ345D (200mm < t≤250mm).

2. Impact Test:

Test Method: GB/T 229-2007

| Test item | Test condition | Sample | Absorbed energy (J) | Requirement (J) | Conclusion |
|------------------|---|--------|------------------------|---------------------------|------------|
| Charpy Impact | Specimens: Charpy V-notch Dimension of specimens: 55mm×10mm×10mm Temperature: -20℃ | 1# | 126 154 84 | Average ≥34 Single ≥24 | Pass |
| Charpy Impact | Specimens: Charpy V-notch Dimension of specimens: 55mm×10mm×10mm Temperature: -20℃ | 2# | 242 231 241 | Average ≥34 Single ≥24 | Pass |

Note: The results comply with the requirement of GB/T 1591-2008 typeQ345D (100mm < t≤150mm).



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| Test item | Test condition | Sample | Absorbed energy (J) | Requirement (J) | Conclusion |
|-----------|---|--------|------------------------|--------------------|------------|
| | Specimens: Charpy V-notch | | 155 | | |
| Charpy | Dimension of specimens: 55mm×10mm×10mm | 3# | 146 | Average ≥27 | Pass |
| Impact | Temperature: -20℃ | | 156 | Single ≥19 | |
| | Specimens: Charpy V-notch | | 165 | | |
| Charpy | Dimension of specimens: | 4# | 168 | Average ≥27 | Pass |
| Impact | 55mm×10mm×10mm Temperature: -20℃ | | 82 | Single ≥19 | |
| | Specimens: Charpy V-notch | | 112 | | |
| Charpy | Dimension of specimens: | 5# | 107 | Average ≥27 | Pass |
| Impact | 55mm×10mm×10mm Temperature: -20℃ | | 42 | Single ≥19 | |

Note: The results comply with the requirement of GB/T 1591-2008 typeQ345D (150mm < t≤250mm).





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******** End of report*******

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