

CUSTOMER: BS-TECH ROLLING MILL, S. L

ORDER NO.: 1235

Centrifugal Casting

DRAWING NO.: 00001.01.2720.02.001

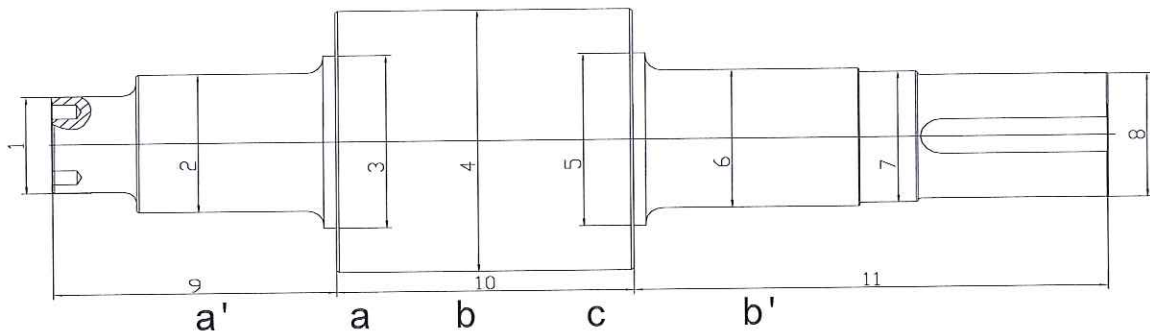
MATERIAL: SG Pearlitic

HEAT NO.: 16-04-04-A3

ROLL NO.: A1604-309

INSPECTION DATE: Jun.05 .2016

MAKING NO.: A1604-309



Final hardness (HSC)

| a' | a  | b  | c  | b' |
|----|----|----|----|----|
| 42 | 65 | 64 | 64 | 41 |

Dimension In (mm)

|   | drawing size                 | inspectio size |    | drawing size                 | inspectio size |
|---|------------------------------|----------------|----|------------------------------|----------------|
| 1 | $\Phi 180_{-0.043}^{-0.068}$ | -0.06          | 7  | $\Phi 230_{+0.031}^{+0.060}$ | +0.05          |
| 2 | $\Phi 240_{+0.084}^{+0.113}$ | +0.1           | 8  | $\Phi 220_{+0.130}^{+0.159}$ | +0.14          |
| 3 | $\Phi 315_{+0.020}^{+0.052}$ | +0.03          | 9  | 416                          | 416            |
| 4 | $\Phi 510$                   | +1             | 10 | 800                          | 800            |
| 5 | $\Phi 315_{+0.020}^{+0.052}$ | +0.03          | 11 | 655                          | 655            |
| 6 | $\Phi 240_{+0.084}^{+0.113}$ | +0.1           |    |                              |                |

Chemical Composition(%)

Working Depth In (mm)

| C   | Si   | Mn   | P     | S     | Ni   | Cr   | Mo   |
|-----|------|------|-------|-------|------|------|------|
| 3.3 | 1.36 | 0.64 | 0.031 | 0.009 | 2.13 | 0.87 | 0.33 |

| Top Side | Bottom Side |
|----------|-------------|
| 90       | 90          |

ULTRASONIC INSPECTION - CERTIFICATE: No Defect in the Composite Layer

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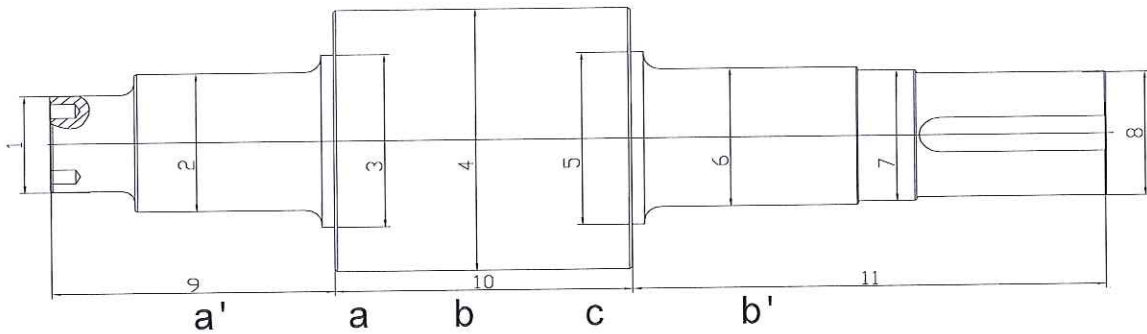
MATERIAL: SG Pearlitic

HEAT NO.: 16-04-05-A3

ROLL NO.: A1604-399

INSPECTION DATE: Jun.05 .2016

MAKING NO.: A1604-399



Final hardness (HSC)

| a' | a  | b  | c  | b' |
|----|----|----|----|----|
| 42 | 63 | 65 | 64 | 41 |

Dimension In (mm)

|   | drawing size                 | inspectio size |    | drawing size                 | inspectio size |
|---|------------------------------|----------------|----|------------------------------|----------------|
| 1 | $\Phi 180^{+0.043}_{-0.068}$ | -0.055         | 7  | $\Phi 230^{+0.060}_{+0.031}$ | +0.05          |
| 2 | $\Phi 240^{+0.113}_{+0.084}$ | +0.11          | 8  | $\Phi 220^{+0.159}_{+0.130}$ | +0.15          |
| 3 | $\Phi 315^{+0.052}_{+0.020}$ | +0.04          | 9  | 416                          | 416            |
| 4 | $\Phi 510$                   | +1             | 10 | 800                          | 800            |
| 5 | $\Phi 315^{+0.052}_{+0.020}$ | +0.03          | 11 | 655                          | 655            |
| 6 | $\Phi 240^{+0.113}_{+0.084}$ | +0.1           |    |                              |                |

Chemical Composition(%)

Working Depth In (mm)

| C    | Si   | Mn   | P     | S     | Ni   | Cr   | Mo   |
|------|------|------|-------|-------|------|------|------|
| 3.25 | 1.33 | 0.64 | 0.036 | 0.009 | 2.25 | 0.85 | 0.32 |

| Top Side | Bottom Side |
|----------|-------------|
| 105      | 105         |

ULTRASONIC INSPECTION CERTIFICATE: No Defect in the Composite Layer

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ORDER NO.: 1235

Centrifugal Casting

DRAWING NO.: 00001.01.2720.02.001

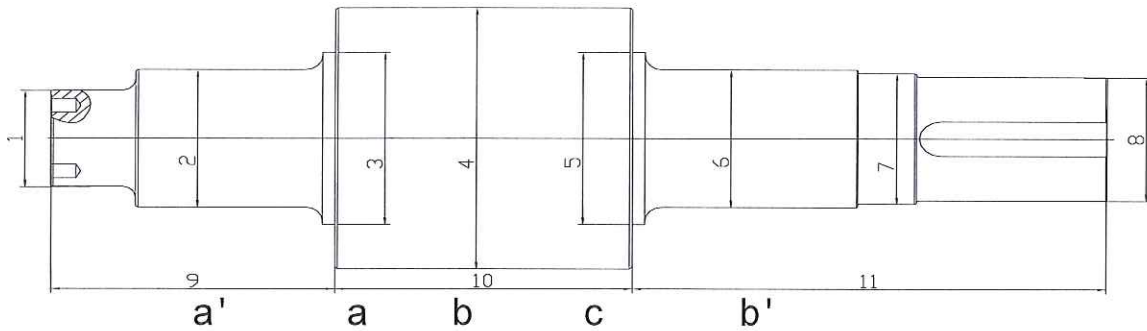
MATERIAL: SG Pearlitic

HEAT NO.: 16-04-12-A3

ROLL NO.: A1604-588

INSPECTION DATE: Jun.05 .2016

MAKING NO.: A1604-588



Final hardness (HSC)

| a' | a  | b  | c  | b' |
|----|----|----|----|----|
| 41 | 63 | 65 | 64 | 40 |

Dimension In (mm)

|   | drawing size                 | inspectio size |    | drawing size                 | inspectio size |
|---|------------------------------|----------------|----|------------------------------|----------------|
| 1 | $\Phi 180_{-0.068}^{-0.043}$ | -0.06          | 7  | $\Phi 230_{+0.031}^{+0.060}$ | +0.05          |
| 2 | $\Phi 240_{+0.084}^{+0.113}$ | +0.1           | 8  | $\Phi 220_{+0.130}^{+0.159}$ | +0.14          |
| 3 | $\Phi 315_{+0.020}^{+0.052}$ | +0.03          | 9  | 416                          | 416            |
| 4 | $\Phi 510$                   | +1             | 10 | 800                          | 800            |
| 5 | $\Phi 315_{+0.020}^{+0.052}$ | +0.03          | 11 | 655                          | 655            |
| 6 | $\Phi 240_{+0.084}^{+0.113}$ | +0.1           |    |                              |                |

Chemical Composition(%)

Working Depth In (mm)

| C    | Si   | Mn   | P     | S     | Ni   | Cr  | Mo  |
|------|------|------|-------|-------|------|-----|-----|
| 3.18 | 1.28 | 0.63 | 0.041 | 0.007 | 2.25 | 0.7 | 0.3 |

| Top Side | Bottom Side |
|----------|-------------|
| 90       | 90          |

ULTRASONIC INSPECTION CERTIFICATE: No Defect in the Composite Layer

