

Material Grade: **16NiCr4**

 Associated Standard: **BS EN 10084**
1. STEELMAKING

| | <u>C</u> | <u>Si</u> | <u>Mn</u> | <u>S*</u> | <u>P</u> | <u>Cr</u> | <u>Ni</u> |
|-----|----------|-----------|-----------|-----------|----------|-----------|-----------|
| Min | 0.13 | | 0.70 | | | 0.60 | 0.80 |
| Max | 0.19 | 0.40 | 1.00 | 0.035 | 0.025 | 1.00 | 1.10 |

(* grade variation 16NiCrS4 has S range of 0.020-0.040%)

2. MECHANICAL PROPERTIES

| Test type | | | Tensile and hardness test (at room temperature) | | | | | |
|-------------|------------|------|---|-------------------|-------------------|-----------|------------|----------|
| | | | Yield (Re) | 0.2 % proof | UTS (Rm) | Elong (A) | R of A (Z) | Hardness |
| Variation | Sample dia | Unit | N/mm ² | N/mm ² | N/mm ² | % | % | HB |
| 16NiCr4 + A | | | Min | | | | | |
| | | | Max | | | | | |

3. TYPICAL JOMINY HARDENABILITY - grade 16NiCr4+H

Jominy reported in 1/16"

| | <u>1.5</u> | <u>3</u> | <u>5</u> | <u>7</u> | <u>9</u> | <u>11</u> | <u>13</u> | <u>15</u> | <u>20</u> | <u>25</u> | <u>30</u> | <u>35</u> | <u>40</u> |
|---------|------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| HRC max | 47 | 46 | 44 | 42 | 40 | 38 | 36 | 34 | 32 | 30 | 29 | 28 | 28 |
| HRC min | 39 | 36 | 33 | 29 | 27 | 25 | 23 | 22 | 20 | | | | |