

**Cross reference table  
for Steel En9 (BS ) and its European equivalent C55 (1.0535) ( EN )**

| EU<br>EN        | USA<br>- | Germany<br>DIN,WNr | Japan<br>JIS | France<br>AFNOR | England<br>BS       | Italy<br>UNI | Spain<br>UNE | China<br>GB | Sweden<br>SS | Poland<br>PN | Czechia<br>CSN | Russia<br>GOST | Inter<br>ISO |
|-----------------|----------|--------------------|--------------|-----------------|---------------------|--------------|--------------|-------------|--------------|--------------|----------------|----------------|--------------|
| C55<br>(1.0535) | 1055     | C55                | S55C         | AF70C55<br>C54  | 070M55<br>50<br>En9 | 1C55<br>C55  | C55k         | 55          | 1655         | 55           | 12060          | 50<br>55       | C55<br>C55E4 |

**Chemical composition % of steel C55 (1.0535): EN 10277-2-2008**

Cr + Mo + Ni = max 0.63

| C          | Si      | Mn        | Ni      | P         | S         | Cr      | Mo      |
|------------|---------|-----------|---------|-----------|-----------|---------|---------|
| 0.52 - 0.6 | max 0.4 | 0.6 - 0.9 | max 0.4 | max 0.045 | max 0.045 | max 0.4 | max 0.1 |

**Mechanical properties of steel C55 (1.0535)**

|                                  |          |          |           |           |            |
|----------------------------------|----------|----------|-----------|-----------|------------|
| Nominal thickness (mm):          | to 16    | 16 - 100 | 100 - 250 | 250 - 500 | 500 - 1000 |
|                                  |          |          |           |           |            |
| Rm - Tensile strength (MPa) (+N) | 680      | 640      | 620       | 600       | 590        |
| Nominal thickness (mm):          | 5 – 10   | 10 - 16  | 16 - 40   | 40 - 63   |            |
|                                  |          |          |           |           |            |
| Rm - Tensile strength (MPa) (+C) | 770-1100 | 730-1080 | 690-1050  | 650-1030  |            |

|                                                                                                 |        |          |           |           |            |
|-------------------------------------------------------------------------------------------------|--------|----------|-----------|-----------|------------|
| Nominal thickness(mm):                                                                          | to 16  | 16 - 100 | 100 - 250 | 250 - 500 | 500 - 1000 |
|                                                                                                 |        |          |           |           |            |
| <b>Re</b> - Upper yield strength or<br><b>R<sub>p0.2</sub></b> - 0.2% proof strength (MPa) (+N) | 370    | 330      | 300       | 260       | 250        |
| Nominal thickness(mm):                                                                          | 5 – 10 | 10 - 16  | 16 - 40   | 40 - 63   |            |
|                                                                                                 |        |          |           |           |            |
| <b>R<sub>p0.2</sub></b> 0.2% proof strength (MPa) (+C)                                          | 590    | 520      | 440       | 390       |            |

|                                                 |        |         |         |         |
|-------------------------------------------------|--------|---------|---------|---------|
| Nominal thickness (mm):                         | 5 – 10 | 10 - 16 | 16 - 40 | 40 - 63 |
| <b>A</b> - Min. elongation at fracture (%) (+C) | 5      | 6       | 7       | 8       |

|                                                    |       |          |           |
|----------------------------------------------------|-------|----------|-----------|
| Nominal thickness (mm):                            | to 16 | 16 - 100 | 100 - 250 |
| <b>A</b> - Min. elongation Lo = 5,65 √ So (%) (+N) | 11    | 12       | 12        |

|                               |           |
|-------------------------------|-----------|
| Brinell hardness (HBW): (+S)  | 255       |
| Brinell hardness (HBW): (+A)  | 229       |
| Brinell hardness (HBW): (+SH) | 181 - 269 |

