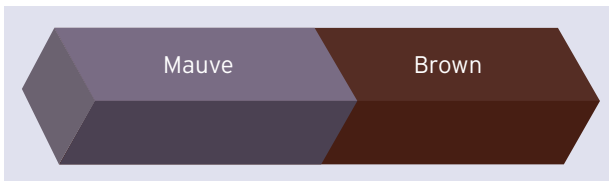


Typical Analysis

C	0.45	P	0.030 max
Mn	0.70	S	0.030 max
Si	0.25		

Colour Code



Characteristics

QBR is suitable for welding. Supplied in the rolled condition, QBR has high toughness, tensile strengths can vary, but are usually 500 - 800N/mm². QBR can be flame or induction hardened to produce a good surface hardness up to 57HRc.

Stock

Carrs QBR is stocked in a range of flat plate sections, and can be supplied cut and ReadyMilled to your requirements. Flame cut and normalised profiles can also be supplied. QBR is also available in larger sizes, supplied from forged machined blocks.

Typical Applications

QBR is widely used in many general engineering applications that require better properties than mild steel.

- Machine components
- Guide rails
- Base plates
- Tool frames
- Backing plates

HEAT TREATMENT

Annealing

Soak thoroughly to 710°C. Cool slowly in the furnace.

Stress Relieving

Heat uniformly to 300°C.

Hardening & Tempering

Thoroughly warm tools or components before charging. Hardening Temperature 840°C.

After warming pre-heat at 400 / 500°C and soak thoroughly.

Raise the heat slowly and uniformly to 840°C.

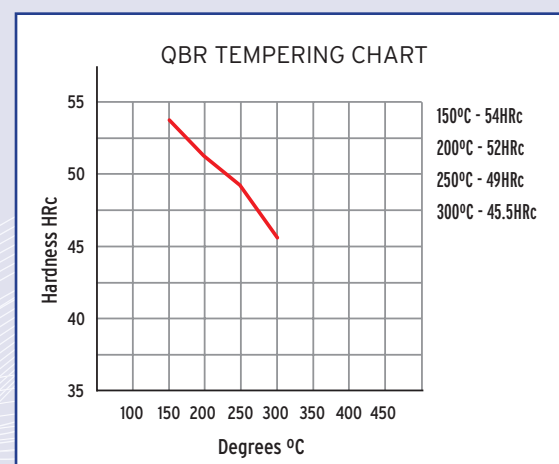
Quenching

Quench in oil or water.

Tools / Components should be tempered immediately whilst still hand warm.

Tempering

Temper according to your hardness requirements.



Normalising

Normalising temperature 840 - 870°C

Typical Analysis

C	0.2 max	P	0.025 max
Mn	1.6 max	S	0.025 max
Si	0.55 max		

Colour Code



Characteristics

Mild Steel is an unalloyed low carbon steel, with good machinability. Supplied in the rolled condition, with an average minimum yield of 355 N/mm².

Stock

Carrs Mild Steel is stocked in a range of flat plate sections, and can be supplied cut and ReadyMilled to your requirements.

Typical Applications

Mild Steel is widely used in many general engineering applications.

HEAT TREATMENT

Mild Steel (S355) is not particularly suited to hardening, although it can be subjected to limited heat treatment processes such as case hardening. As a rolled unalloyed low carbon steel the main characteristics of mild steel are its mechanical properties such as tensile strength and yield strength.

Typical Mechanical properties

Tensile strength 470 - 630 N/mm²

Yield Strength 355 N/mm²

Annealing

Soak thoroughly 650 - 700°C. Cool slowly in the furnace.

Normalising

Normalising temperature 860 - 890°C