



# Shell VOLUTA C 202

## Neat Quenching Oil

Shell Voluta C 202 is recommended for cold quenching and should be used to quench easy to hard alloyed steels.

### Applications

Shell Voluta C 202 is recommended for conventional quenching of easy to hard alloyed steels in cold quenching operations.

The low viscosity makes it suitable for quenching of small pieces where drag-out has to be reduced.

The lifetime of the quenching oil depends on the control of temperature.

Make sure that the heating components, the cooling and agitation systems all work properly.

Shell Voluta C 202 can be used after salt bath, after carbonitriding or carburising.

### Performance Features and Benefits

- Low aromatic components
- Low viscosity

### Storage

The product should be stored inside (5-40°C) no more than 2 years and be protected from freezing.

### Health & Safety

Information is available on the Material Safety Data Sheet (MSDS).

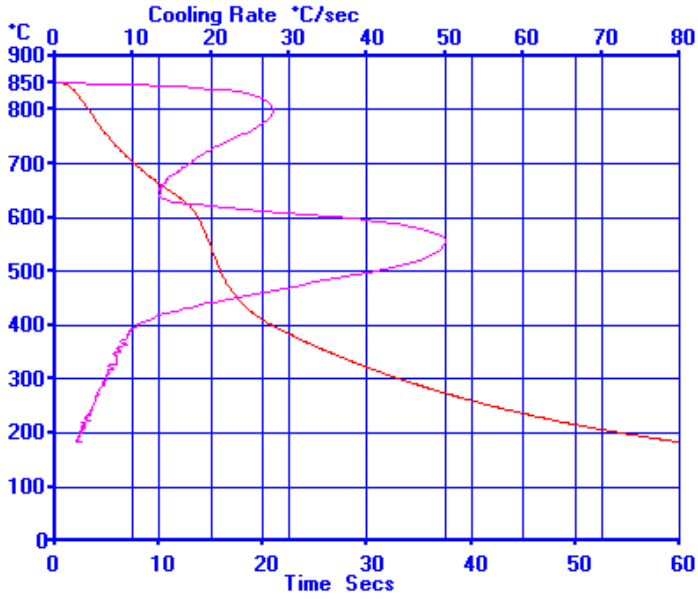
### Protect the environment

Waste must be disposed of in accordance with EC Directive 91/156, 91/689 and 94/62

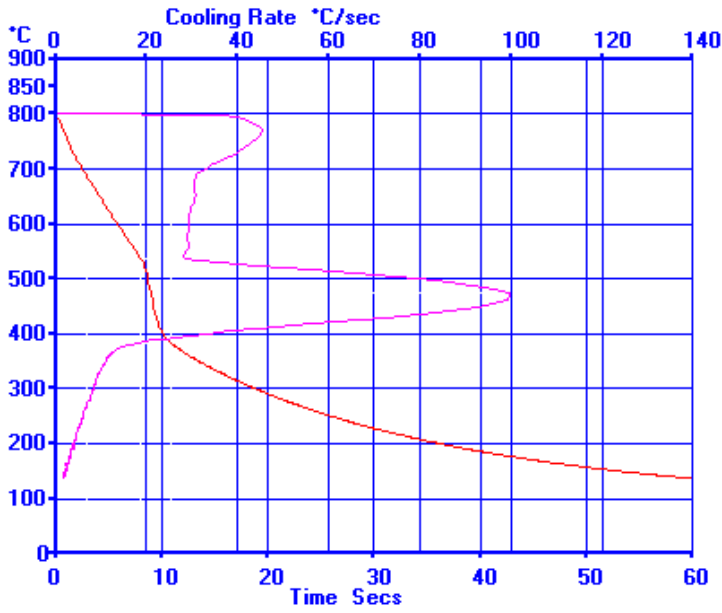
### Typical Physical Characteristics

		Shell Voluta C 202
Appearance		Light Yellow
Kinematic Viscosity @ 40°C	mm <sup>2</sup> /s (ASTM D 445)	30
@ 100°C	mm <sup>2</sup> /s	5.3
Density @ 20°C	kg/m <sup>3</sup> (NFT 60-172)	870
Flash Point PMCC	(°C) (ASTM D 93)	202
Flash Point COC	(°C) (ASTM D 92)	210
Quenching Parameters @ 50°C (NFT 60178) Silver Probe		
θ 1		538
θ 2		381
θ 1-θ 2		157
Quenching parameters @ 40°C (ISO 9950) Inconel Probe		
Vr Maximum cooling rate (°C/s)		50
θVr Temperature at maximum cooling rate (°C)		558.2
Vr @ 300°C cooling rate at 300°C (°C/s)		6.6
Time to reach 600°C		13.750
Time to reach 400°C		20.875
Time to reach 200°C		54.375

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.



INCONEL PROBE  
Oil temperature : 40°C



SILVER PROBE  
Oil temperature: 50°C