PRODUCT INFORMATION

FEROQUENCH 2000

AQUEOUS, SYNTHETIC QUENCHANT WITH OIL-LIKE QUENCHING CHARACTERISTICS

DESCRIPTION

FEROQUENCH 2000 is the first on the market, water based quenchant which has “oil-like” quenching characteristics.

The product is diluted with water for use, and is completely fire resistant, ensuring the safety of workers, equipment and the environment.

FEROQUENCH 2000 solutions ensure quenching without any unpleasant smoke, fumes or soot, thus improving the workplace environment.

The quenchant does not contain mineral oil or nitrite.

BENEFITS

- absolutely non-combustible
- do not produce any flames or hazardous or troubling fumes
- enables "hot drawing" at any temperature without odour nuisance
- enables savings on bath suction and extinguishing equipment
- problem-free, cost-saving scale disposal
- simple adjustment of the cooling properties via the concentration

PHYSICAL DATA

Appearance	light yellow fluid
Density/20 °C (DIN 51757)	approx. 1.045 g/cm³
Viscosity/20 °C (DIN 51562/1)	approx. 1175 mm²/s
pH level/20 °C, 5 % (DIN 51369)	approx. 9.3

PROPERTIES

FEROQUENCH 2000 cools austenised steel like a quenching oil would perform. The fluid has a short vapour-phase, thus providing a high cooling rate in the initial stages of the quenching process. FEROQUENCH 2000 also provides a slow rate of quenching in the liquid convection phase, thereby significantly reducing thermal stresses in the martensite formation temperature range. It is this characteristic which eliminates the risks of cracks and distortion.

FEROQUENCH 2000 is an extremely versatile polymer quenchant and can be used for quenching a wide range of alloyed materials or tool steels.

The product is diluted with water for use, typical concentrations ranging from 8 to 15 % depending on the parts hardness specifications, material and dimensions.

FEROQUENCH 2000 has sucessfully replaced quenching oils in many large open quench tanks, including heat treatment of; steel blocks, slabs, bars, profiles, tubes and pipes, forged rings, rolled rings and forgings. FEROQUENCH 2000 is used for state of the art, modern techniques for quenching of higher alloyed steels up to weights of 100 tons.

Whilst FEROQUENCH 2000 is frequently used for cold and hot work tool steels with good hardenability it can also be used by changing the concentration for quenching steels with lower hardenability.

FEROQUENCH 2000 can also be used for sensitive parts by using an interrupted quench technique. Sensitive parts can be safely withdrawn from the FEROQUENCH 2000 before cooling reaches bath temperature, and no smoke, fire or unpleasant smell will be produced.

For further information relating to suitable FEROQUENCH 2000 applications and recommended control and maintenance routines, please see our separate publication:

‘’Substitution of quenching oils with high risk of fire by water-based quenchant – without flames and fumes“.

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ADVANTAGES OF FEROQUENCH 2000 COMPARED WITH QUENCHING OIL

Non-combustible	No fire hazard – reduced risk of accidents and damage No investment and subsequent costs for fire-extinguishing equipment Reduction of insurance costs
No smoke formation	Improvement to working environment No dangerous thermal decomposition products are formed during quenching. No extraction and air-cleaning system is needed.
Cleaner & safer working	Accidental spillages can be cleaned off with water. Reduction in risk of slipping and related accidents
Oil quenching adaptations.	Normally, changes to the oil quenching equipment are unnecessary. Cooling is more effective due to better heat transfer properties and there is no formation of residues on cooling system pipework.
Versatile quenching	Fluid concentrations can be adjusted so that the quenching properties may be varied and adapted to special requirements.
Hot withdrawing	Withdrawing of workpieces is possible at any temperature without fire, smoke or fumes. This operation is carried out to reduce thermal stresses on sensitive parts.
Washing before tempering is not required	No investment and subsequent costs for maintenance, energy, cleaners, equipment and waste disposal If washing is desired, simple rinsing with water is sufficient.
Easy and simple scale disposal	Loose scale is formed which is easy to remove. It does not adhere to oil ageing sludge. Therefore remelting of scale is possible without problems. No special and expensive waste disposal is required.

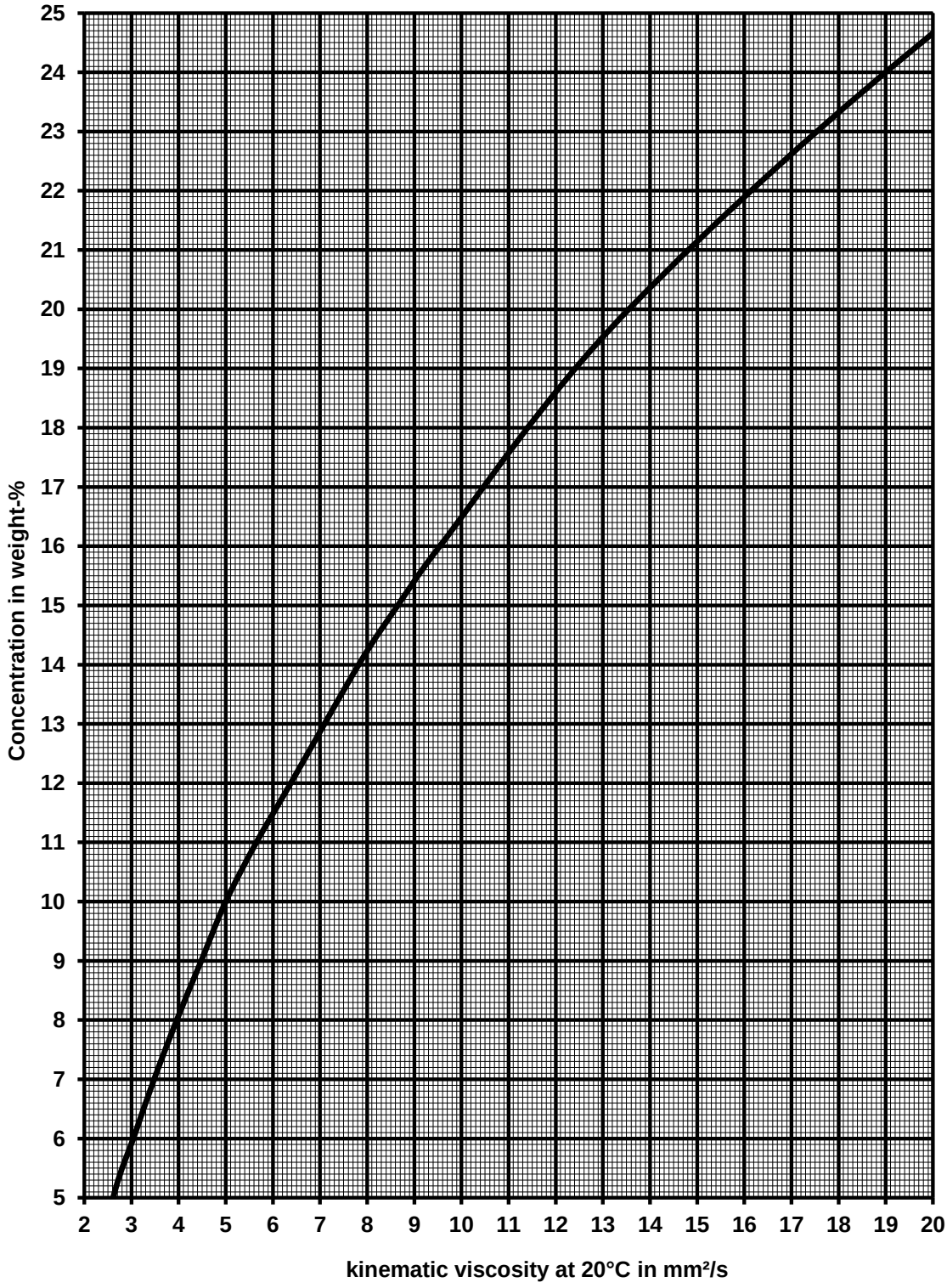
HANDLING AND STORAGE

The storage temperature should ideally be between 5 - 25 °C, frost should be avoided.
Always observe the recommended use by date on the container.

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FEROQUENCH 2000

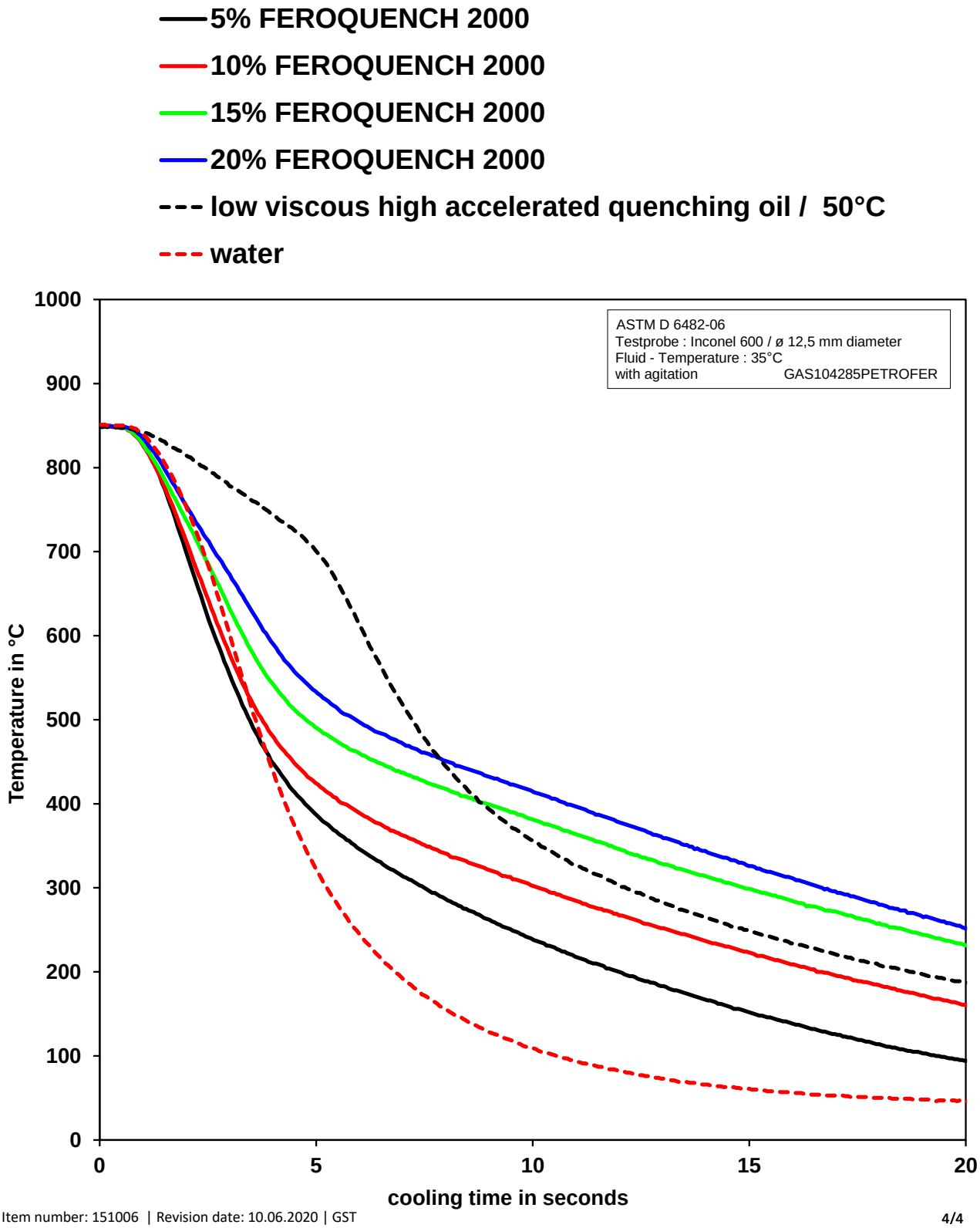
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FEROQUENCH 2000

Quenching properties



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