

AQUATENSID Code YP

Waterbased Quenchant for induction hardening (spray-application) and tank quenching

AQUATENSID Code YP is supplied as a viscous green fluid. It does not contain mineral-oil or nitrite or any other harmful material.

The concentrate is diluted with water for use. Depending on the ratio, quenching rates faster than oil but slower than water can be obtained. Quenching curves for various concentrations are enclosed.

Plain carbon and low alloyed steels require fast and uniform quenching which only a quenchant with an extremely short vapour phase such as AQUATENSID Code YP at low concentration will guarantee.

Alloyed steels are due to their good hardenability sensitive to cracking when being water-quenched. Because it is almost impossible to apply quenching oils on induction hardening machines for spray-quenching, so only AQUATENSID Code YP in a higher concentration can be used to reduce the quenching speed of water in order to avoid distortion and cracks.

Due to the outstanding reproducibility of the quenching curves of AQUATENSID Code YP it is also widely applied for tank (immersion) quenching; e.g. for forged pieces - also for direct quenching from forging temperature - for hand tools, agricultural equipment etc.

Technical data :

Appearance :	green, viscous fluid
Density at 20 °C :	approx 1,095 g/cm ³
Viscosity at 20 °C :	approx 700 mm ² /s (c/St)
pH-value	
concentrate :	8,8-9,2
5% solution :	8,7-9,1
Pour point :	- 25 °C
Cloud point (5% solution):	approx 79 °C
Corrosion protection (Filterpaper/steel-millings)	at approx 3% o.k.
Foam test (shaken cylinder) :	no foam formation

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Recommendations for suitable concentrations for tank quenching

(spray quenching on induction hardening machines requires only half to two thirds of these concentration values)

Material	recommended concentration
low alloy and plain carbon steels:	
carbon content 0,30-0,50 %	3 - 8 %
carbon content 0,50-0,70 % (chromium steels up to 1%, spring steels)	10 - 15 %
alloyed steels:	
0,30 - 0,50 % C alloyed with chromium, molybdenum or vanadium	12 - 25 %

AQUATENSID Code YP forms a solution with water. The concentrate may be added to water or vice versa. Water hardness is of minor influence.

The best operating temperature of AQUATENSID Code YP for tank quenching should be between 25 and 45° C, on induction hardening machines 25 - 35° C, max. 40° C. Temperatures should never exceed 60° C, in case they do, the fluid should be cooled down to min. 40° C before quenching the next batch.

Control of AQUATENSID Code YP solutions

The control of AQUATENSID Code YP solutions is carried out in a simple manner by measuring the refractive index using a manual refractometer. The quenchant can be controlled directly at the induction-hardening-machine or the quenching bath, a laboratory is not necessary.

When AQUATENSID Code YP is used on a long-term basis for tank-quenching it is also recommended to measure the viscosity at 20° C frequently because the correlation between viscosity and the quenching properties are closer than between refractive reading and this. The refractive reading is influenced by contamination, while the viscosity is practically not.

AQUATENSID Code YP usually does not foam, however in case it does, check the system for entrapment of air e.g. in pumps, by back-flow pipes not ending below the fluid's surface etc. In case add CONTRAFUM 1:10.000 up to 1:5000.

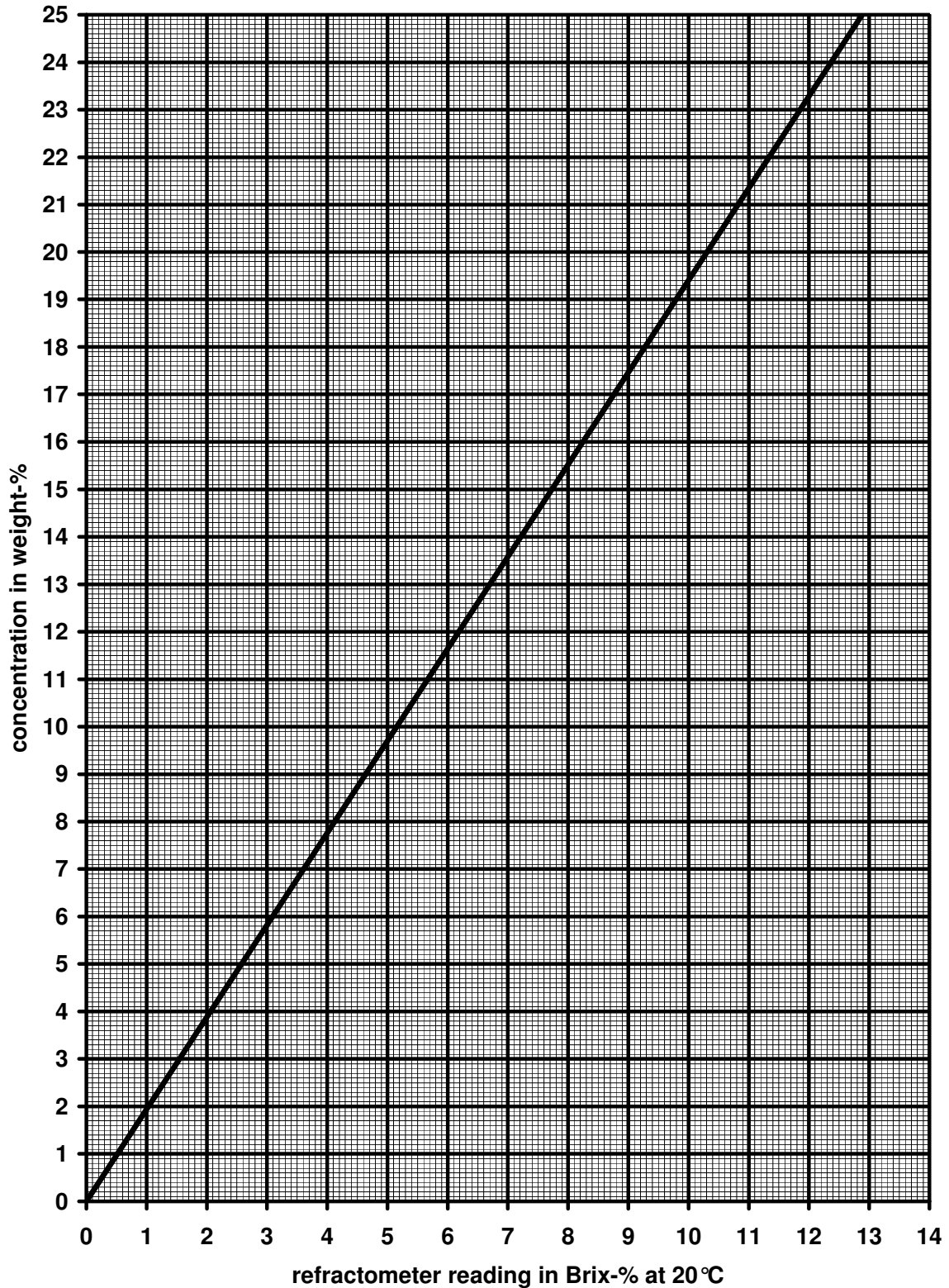
The information should be used in conjunction with the relevant EC-MSDS. Risk and safety-phrases and a use-by-date is provided on package labels and should be strictly adhered to.

Warranty:

The information given here is considered to be correct and is offered for your consideration, investigation and verification. No warranties are expressed or implied since the use of our products is beyond our control. Statements concerning the use of PETROFER-products are not to be construed as recommending the infringement of any patent.

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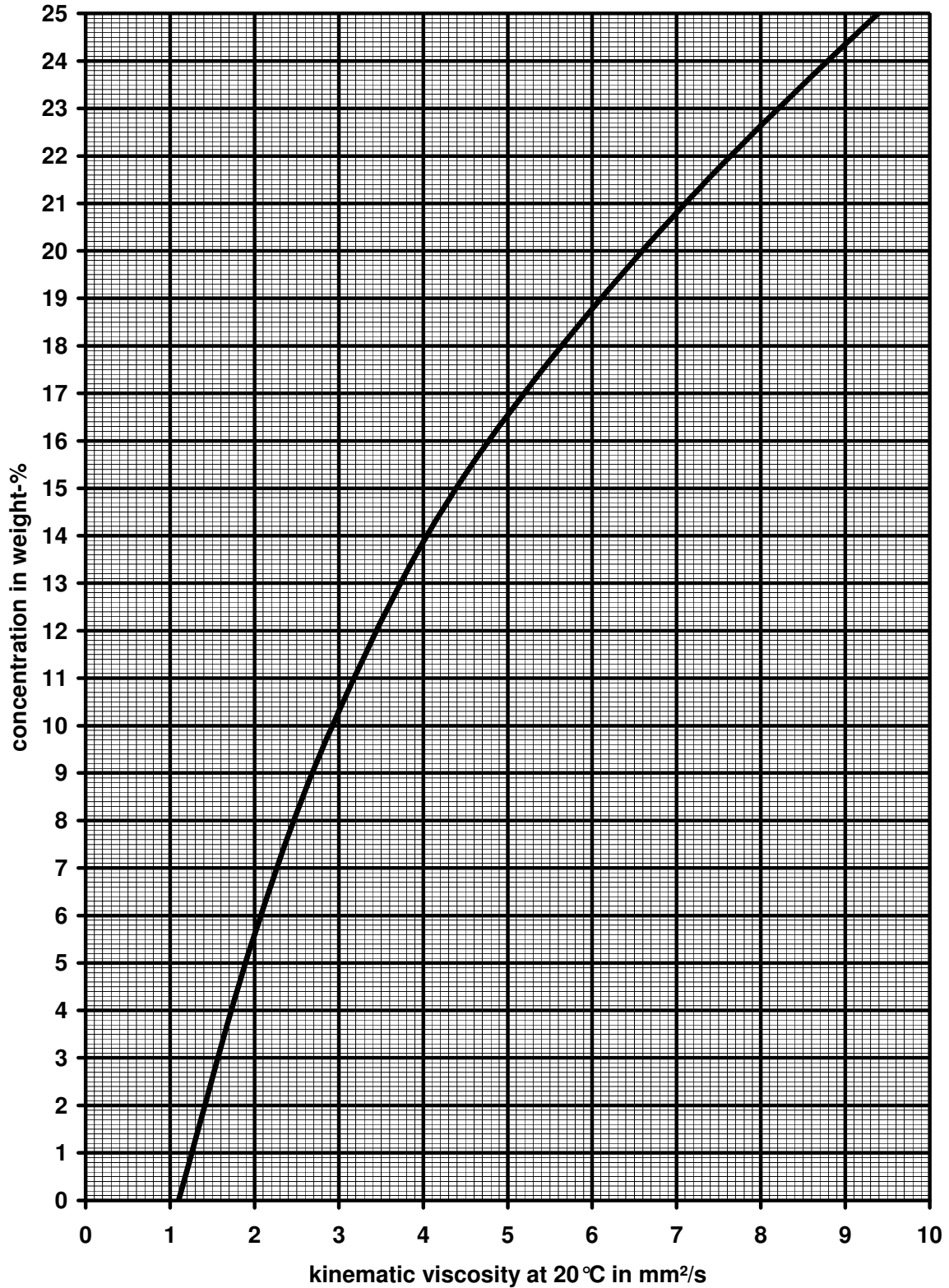
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concentration control by viscosity 04 03 0150009



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