

Condorquench P20

Quenching fluid for high carbon steel

Physical chemical data

State	: Viscous clear liquid
Density	: 1.035 +/- 0,03 kg/l
pH 1%	: 9.2 +/- 0,5
viscosity	: 351 cSt

Characteristics

Condorquench P 20 is a water based quenching fluid for massive and surface hardening of high carbon steel. Thanks to its special composition it has oil-like quenching characteristics: in the martensitic zone (400°C-200°C) the cooling rate is low. This prevents cracking and distortions that happens with the commonly used quenching media.

The advantages of Condorquench P20 in comparison with oil quenchants are numerous. The product is nonflammable and eliminates the need for fire suppression equipment. Moreover no smoke or fumes occur during quenching.

The flexibility of Condorquench P20 enables to achieve a wide range of cooling rates, and tailor the process to the parts being quenched. By varying the product concentration, the agitation rate and the bath temperature the quenching characteristics can be modified

The oily floors are eliminated and the product can be easily cleaned using cold water. The high thermal and chemical stability enables a long duration of the quenching bath.

The in-tank cost of the diluted bath is cheaper than those of quenching oils. Because the Condorquench P20 solution has a lower viscosity than oils, the drag-out is significantly reduced. Cleaning can be accomplished using only cold water, with no need of alkali cleaners.

Application

Concentration	: 5-8 % for low carbon steel 10-15% for structural steel 15-20 % for high carbon steel
Plants	: immersion or sprinkler
Bath agitation	: 0.5 m/s near the surface of the pieces to be treated. Air agitation must be avoid
Bath temperature	: 30-45 °C*

* attention: for high cooling rate it is necessary to work at higher temperature. However water will evaporate faster, modifying the product concentration.

Product residues decompose during quenching if the metal is at temperature higher than 350°C. In order to clean the parts that do not undergo the quenching process, the use of water is sufficient.

Storage condition

The product should be kept from freezing and stock at 5-40°C. Direct sun light exposure should be avoided.