TECHNICAL DATA SHEET
PSQ - 150

MARQUENCHING SALTS
PSQ – 150

Alloy steels generally are more adaptable then carbon steel to mar tempering. In general any steel that is formally quenched on oil can be mar tempered.
Molten salts widely used for mar tempering, is composed nitrite and nitrate mixture. Temperature about 145ºC and may be used for working range at 160ºC to 400ºC. Cooling power of agitated salt at 200ºC is about the same as that of agitated oil is conventional oil quenching. Water additions to salt increase its cooling power.
At temperature above 450ºC strong oxidation may cause pitting on surface of steel a part from causing an explosion, hence great care should be taken not to exceed the recommended safe working temperature. Marquenching salt use for quenching as well as tempering process.
BASE: its combination of Sodium Nitrite and Potassium Nitrate.

Advantages of salt:

1) Salt viscosity changes only slightly over a wide temp.range. It transfers heat rapidly.
2) Salt retains chemicals stability so that the only need for replenishing is to replace drag out loss.
3) Salt is washed from the work with plain water. Bluish colour with clean surface will come on surface.
4) Less time is required for work pieces to Heat transfer in salt.
5) Less distortion and less crack generation compare to oil.
6) It virtually eliminates the problem of a vapor phase barrier during the initial stage of quenching.

DESCRIPTION

PSQ 150 is a pink crystalline Powder granular material with these typical physical properties :

Melting Point	145^0C
Operating Range	150 - 540^0C
Decomposition Point	635^0C
Unit Weight, solid	2114 kg/cum
Unit Weight, liquid	1762 kg/cum at 426^0C
Specific Gravity @ 426^0C	1.768

Safety Precautions:

1) The mar quenching bath must not be permitted to exceed 450ºC or fire and explosion may occur. In the event of fire, a carbon dioxide extinguish shall be used, water should never be used to extinguisher in a nitrate – nitrite bath.