

TECHNICAL DATA SHEET

AS - 220

AUSTEMPERING SALTS

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Alloy steels generally are more adaptable than carbon steel to austempering. In general any steel that is normally quenched in oil can be austempered.

Molten salts widely used for austempering, is composed of nitrite base mixture. Melting Temperature about 200°C and may be used for working range at 220°C to 400°C. Cooling power of agitated salt at 200°C is about the same as that of agitated oil in conventional oil quenching. Water additions to salt increase its cooling power.

At temperature above 450°C strong oxidation may cause pitting on surface of steel apart from causing an explosion, hence great care should be taken not to exceed the recommended safe working temperature.

Advantages of salt:

- 1) Salt viscosity changes only slightly over a wide temp.range. It transfers heat rapidly.
- 2) Salt retains chemical 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 color 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 220 is a pink crystalline Powder granular material with these typical physical properties :

Melting Point	200 ⁰ C
Operating Range	220 - 540 ⁰ C
Decomposition Point	635 ⁰ C
Unit Weight, solid	2114 kg/cum
Unit Weight, liquid	1762 kg/cum at 426 ⁰ C
Specific Gravity @ 426 ⁰ C	1.768
<u>Density</u> - Density @ 400 ⁰ c-	52kgs/cu.ft

Safety Precautions:

- 1) The austempering quenching bath must not be permitted to exceed 450⁰C 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.
- 2) Cyanide and cyanide bearing salt are especially in compatible with this salts.

