



## **KEM HARD**

### **PHOSPHATE TREATMENT FOR BOILER WATER**

#### **Description**

**KEM HARD** is a highly soluble, dry powder product used for the reduction of hardness in boilers. It will precipitate calcium hardness as a non – adherent sludge.

**KEM HARD** is characterized as a safe additive in the preparation of steam that will contact food in accordance with U.S. regulations FDA (CFR code *173.310 Boiler Water Additives*).

#### **Advantages**

- Economical for use highly active phosphate based compound.
- Dissolves easily in water for dosing.
- Eliminates scale problems due to calcium.
- Maintains sludge in a non – adherent state for ease of blow down.
- Simple test to determine level of treatment.
- Can be used for boilers of all pressures.
- The alkalinity in the system is not influenced by KEM-HARD.

#### **Usage**

**KEM HARD** is formulated to form a precipitate with calcium ions, which will not adhere to metal surfaces but are in a form suitable for blowdown.

#### **Dosage**

**KEM HARD** is used in controlled amounts so that a free phosphate level is maintained in the boiler. This level is determined by the boiler pressure.

Initial dosage is 25-50 gr. per ton of water and depends on the quality of feed water.

#### **Dosing Method**

For best results dose **KEM HARD** directly to the boiler via the bypass pot – feeder.

The dry powder should be dissolved in hot water before adding into the boiler. Ensure is fully dissolved before dosing.

#### **Sample and testing**

A representative sample of boiler water should be drawn for analysis daily. The sample should always be taken from the same point after blowdown, cooled and tested immediately.

Maintain phosphate level 10-50 PPM depending on the boiler pressure.



**USE THE TABLE:**

Select the section corresponding to the pressure of the boiler to be treated and read across the table to obtain the level of treatment required.

**KEM HARD – DOSAGE – GRAMS/TONNE OF WATER**

Pressure range		Phosphate test result in ppm PO <sub>4</sub>					Standard	Phosphate Initial Range (ppm)	Initial Dose Gram/tonne
		0-10	10-20	20-30	30-40	40-50			
0-40 Bar 0-588 Psi	Dose of kem hard grams per Tonne of water	40	30	Satisfactory	Satisfactory	Satisfactory	Blowdown	20-50	50
41-60 Bar 603-880 Psi		20	10	Satisfactory	Blowdown	Blowdown	Blowdown	15-30	30
> 60 Bar >880 Psi		15	Satisfactory	Satisfactory	Blowdown	Blowdown	Blowdown	10-25	25

These are recommended values based on experience and are in no way intended to replace the boiler manufacturer's specifications or company regulations.