

THREEPHOR™ HK

Threephor HK is fluorescent whitening agent with neutral white color shade suitable for wet end and surface coating process in papermaking.

1. Special properties

- Neutral white color shade after dyeing
- High affinity to cellulose
- Good affinity under soft water conditions
- Suitable in the furnish at slightly acid or neutral pH
- Easy to use as liquid type

2. General properties

- | | |
|----------------------|---------------------|
| • Appearance | Brown liquid |
| • Color index No. | |
| • Chemical structure | Stilbene derivative |
| • Ionic character | Anion |
| • pH (1%) | 8 ~ 10 |
| • Density (25°C) | 1.1~1.3 |
| • Viscosity (25°C) | ≤100cp |

3. Storage stability

Threephor HK is stable when properly stored in closed containers at 20°C.
The product is sensitive to cold below 0°C and sensitive to heat above 40°C.

4. Application

1) Wet End

- Excellent affinity in pulp and is very effective in unsized papers.
- Good affinity even under very soft water conditions (<7° German hardness or <70ppm CaO).
- Largely unaffected by cationic substances, it can readily be used for paper sized with synthetic additives.
- It is suitable for fluorescent whitening in acid sized loaded paper at a pH level of 4.8-6.5 and has advantages when used in amounts of less than 0.4%.
- Threephor HK120 can be dispensed intermittently at either the pulper or the mixing chest. It should always be added before the alum and never together with alum or other additives.

Average dosage:

0.05 ~ 1.7% at pH5.0 and above

0.05 ~ 0.6% at pH4.8 and below

2) Size Press

- For fluorescent brightening agent at the size press we recommend using a **Threephor PL-M** or **Threephor SH-C**.

3) Surface Coating

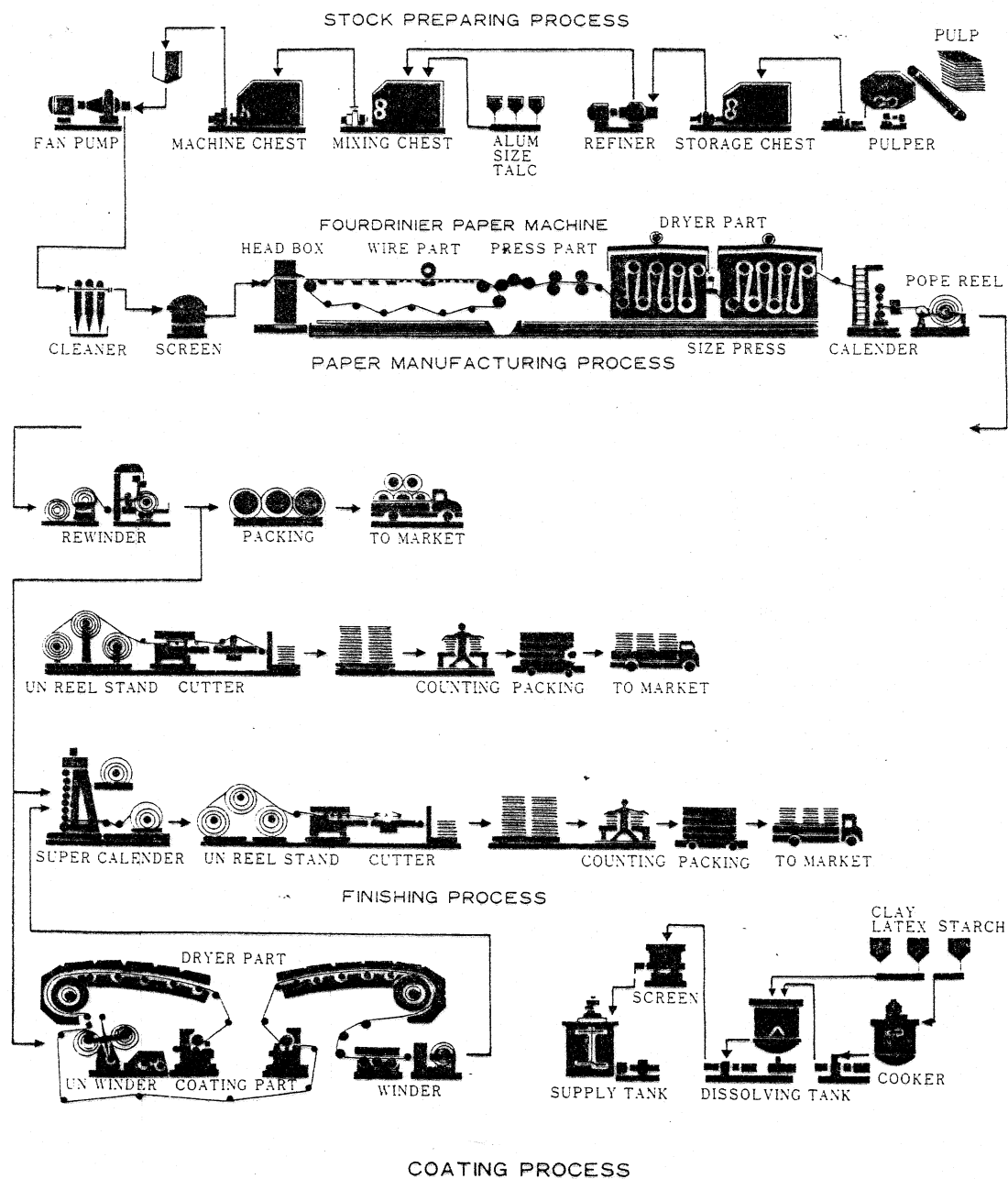
- Excellent results can be obtained when applied in coating mixes based on casein or protein as co-binders. The best effects are achieved with coating mixes containing synthetic co-binders and latex.
- For coating mixed starch as binder we recommend using a **Threephor PL-M** or **Threephor SH-C**.

Average dosage:

0.1 ~ 2.3 part (based on the pigment)

0.05 ~ 0.9% for newsprint and SC-paper
(based on the weight of dry cellulose)

【Paper manufacturing process】



TECHNICAL DATA SHEET

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