

AVCO-RETARDER CAT

CATIONIC DYE RETARDER

AVCO-RETARDER CAT is a levelling agent with affinity to acrylic fibres, which in the beginning of the dyeing process goes on to fibre dyeing sites faster than the dyestuff molecule, herewith lessening the absorption rate of the dyestuffs. It slows down the rate of exhaustion of the cationic dyes in the critical range of the heating phase (above 80°C). Due to this retarding effect it promotes the even uptake of the dyes.

SPECIFICATIONS:

Appearance	Slightly yellowish clear liquid
Chemical nature	Quaternary ammonium compound in aqueous solution
Ionic type	Cationic
pH (10% sol).	3 - 4
Solubility	Miscible with water at any ratio
Compatibility	Incompatible with anionic products
Storage	Freezes below 0°C. Fully usable after thawing. Storage stability is at least 12 months.

PROPERTIES & USES:

1. AVCO-RETARDER CAT has high levelling efficiency towards cationic dyestuffs.
2. AVCO-RETARDER CAT comprises optimal balance of retarding and levelling effect.
3. Improves migration of cationic dyestuff.
4. Colour yield is not reduced when the recommended concentrations are used.
5. Product can be used at HT conditions.

APPLICATION:

As a general rule the amount of retarder employed in the dyeing, will depend on the exhaust rate of each dyestuff, the saturation factor of the acrylic fibre to be dyed and the depth of the shade required. The following concentrations of AVCO-RETARDER CAT are recommended:

% dyestuff	up to 0.5	0.5-1.0	1.0-2.0	2.0-3.0	3.0-5.0
% AVCO-RETARDER CAT	2.5-2.0	2.0-1.5	1.5-1.0	1.0-0.5	0.5

To calculate the exact concentration of AVCO-RETARDER CAT in the dye-bath use the following formula:

$$\% \text{ AVCO-RETARDER CAT} = \frac{\text{SF} - \text{C1 SBF1} + \text{C2 SBF2} + \text{C3 SBF3}}{0.7}$$

SF :saturation factor of the acrylic fibre
 C 1, 2, 3 :quantities of application of dyestuffs
 SBF 1,2,3 :saturation factors of each dyestuff

This formula is only an indication. Initial laboratory trials should be made before carrying out a big scale dyeing.

Recommended dyeing procedure of acrylic fibres:

1. Heat dye-bath to 50°C and add the following:
 Acetic acid (60%) 1 - 3 cc/l
 Sodium acetate 0.5 - 1.5 g/l
 Sodium sulfate 0 - 10 g/l
 AVCO-LEVOLUZE 200 0.5 - 1 g/l (optional)
 AVCO-RETARDER CAT X%
2. Heat up to the boil at 45-60 minutes.
3. Dye at the boil for 45-90 minutes or dye at 106°C for 30-45 minutes.
4. Cool down to 70°C and drop bath.
5. Softening can be done in the dyeing bath with AVCO-SOFT NE (1-3%) in the beginning of the dyeing process or by adding AVCO-SOFT NE during the cooling down step.
 It is possible also to apply the softener in a fresh bath at the end of the dyeing.

Correction of un-level dyeing

Treat at the boil or at 105-108°C for 1-2 hours with the following recipe:

AVCO-REFADERCAT 3 - 5%
 Sodium sulfate 10%
 Acetic acid (60%) 0.5 g/l (adjust to pH 4 – 4.5)