

AVCO-SON APE 9000

BIO-POLISHING ENZYME

AVCO-SON APE 9000 is an acidic cellulase enzyme preparation designed for reducing fuzz and pilling problems from all kinds of cellulosic fabrics and garments. AVCO-SON APE 9000 is used in BIO-POLISHING process, improves the handle of the treated fabrics and the brilliancy of the colours. The bio-polishing process is also recommended for cleaning the surface of napped or brushed cellulosic fabrics from residues of loose fibres. It is mostly important for multi-coloured fabrics (prints and yarn dyed).

SPECIFICATION:

Appearance	Brown, clear liquid with characteristic odour.
Chemical nature	Aqueous preparation of acidic cellulase enzyme
Density (20°C)	App. 1.1 gr/cc
pH (as is)	4.5 – 5.5
Solubility	Miscible with water at any ratio.
Compatibility	1. Sensitive to alkaline pH. 2. Sensitive to high temperatures.
Storage	1. Keep in tightly closed packages in a cool place. Do not store in direct sun and near sources of heat. 2. When properly stored, storage time is 6 months at least.

PROPERTIES & USES:

1. AVCO-SON APE 9000 is a cellulase enzyme which is degrading the glucose units in cellulosic polymers. This property enables removal of loose fibres, fuzz and pilling from cellulosic fabric surface. The result is the Bio - Polishing effect.
2. The process is suitable for cotton, polyester cotton, flax viscose, lyocell, tencel and other fabrics containing cellulosic fibres.
3. The process is suitable for knitted and woven fabrics, and specially for towels, socks and ready made garments.
4. During the Bio - Polishing process there is a controlled weight loss which is time dependent. The process can be stopped any time by adding alkali to the liquor and increasing the pH to 9 - 10.

Technical – Information

5. The Bio - Polishing process can be done in any kind of high speed high liquor ratio dyeing machines.
6. Apart of removing excess of fibres from the treated fabric surface, other benefits of the treatment are improved handle and increased brilliancy of dyed fabrics.
7. The process is suitable for Bio-Polishing bleached as well as dyed fabrics.

APPLICATION:

1. The Bio - Polishing process is done in batch machines such as jet, winches and garments dyeing machines.
2. High speed dyeing machines are preferred.
3. Liquor ratio should be in the range of 1:5 to 1:15 depends on the machine type.
4. The process is temperature dependent and the optimal temperature is 50-55⁰ C.
5. The process is pH dependent, and the optimal pH range is 4.5-5.0.
6. Treatment time is 30-60 minutes according to the desired weight loss.
7. About 2 - 5% weight loss is suitable in most cases.
8. The weight loss depends on the duration of the process, and is stopped by adding 1-2 g/l soda-ash in order to increase pH to 9-10, or by heating up the treatment liquor above 70⁰C.

Following is a recommended procedure:

1. Load fabric, if needed add a detergent and antcrease agent such as AVCO-SLIP RF.
2. Adjust pH to 4.5 - 5.5 with 0.5-1 g/l AVCO-CID PHS.
3. Increase temperature to 50 - 55⁰C. Do not use direct steam.
4. Add AVCO-SON APE 9000 0.3 – 0.8% (o.w.g.)
5. Treat for 30 - 60 minutes at 50-55⁰C.
6. Raise temperature to 75-80⁰c.
7. Drop bath and rinse hot and cold.
8. When needed continue with further finishing processes.

REMARKS:

After the enzyme treatment raise the temperature to stop enzymatic activity, drain the bath and wash immediately. The fabrics should not stay too long with cellulase residues as it can cause deterioration of the fabric strength. It is also possible to stop the enzymatic activity by adding alkali and raising pH to 8-8.5.