INTENSOL OLI

Catalyst for oligomer saponifying and in the boiling out process
INTENSOL OLI

Quaternary ammonium compound
nonionic cationic liquid

Properties

INTENSOL OLI is a compound which can be applied for all possible cleaning processes of any kind of machinery. INTENSOL OLI contains substances that dissolve anionic and cationic precipitations settling in machines and holds them in dispersion by means of precipitation inhibitors. These deposits may consist of hardness, oligomers, preparations, auxiliary residues in mixture with dyestuffs. They often cannot be sufficiently removed by conventional treatment. INTENSOL OLI catalyses the saponification of oligomers in presence of alkali at temperatures between 80 °C and 130 °C. Accordingly, INTENSOL OLI can be applied in reductive aftertreatment for soaping oligomers.

At temperatures higher than 95 °C, PES fabric starts to deweight.

Saponifying problem of a woven fabric dyed on beam

How INTENSOL OLI works on PES

The oligomer removal is based on a chemical saponification of the oligomer ester bonds in the presence of hydroxide ions. These are split into their original substances acid and alcohol.

The cationic surfactant INTENSOL OLI is absorbed by the disturbing oligomers. Due to the positive surface charge, the hydroxide ions are attracted more and these cause saponification of the ester bonds of the oligomers. As INTENSOL OLI acts as a catalyst, it does not take part in the reaction and is available for a further reaction.

The decomposition products of the formerly disturbing oligomers are now water-soluble and can easily be removed from the fibre surface.
INTENSOL OLI

Application proposal

Effectiveness INTENSOL OLI with time savings up to 50 %

1) Machine boil out after reactive dyeing:

<table>
<thead>
<tr>
<th></th>
<th>Intensol Oli</th>
<th>NaOH 38 °Bé</th>
<th>Redulit F</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 – 5.0  g/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0        ml/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0 – 3.0  g/l</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10 min, 98 °C
(save the time)
rinse hot and cold

Owing to the strong dyestuff binding of INTENSOL OLI and thus a possible transportation of the dyestuff into the liquor, it can be destroyed more easily by the reduction agent. The foam gives an additional support. Without INTENSOL OLI the dyestuff remains on the walls.

2) Machine boil out after polyester dyeing

<table>
<thead>
<tr>
<th></th>
<th>Intensol Oli</th>
<th>NaOH 38 °Bé</th>
<th>Redulit F</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 - 5.0  g/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0 - 9.0  ml/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.0 - 3.0  g/l</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20 min, 130 °C,
rinse hot and cold

Microscopic photo

Oligomers

With application of INTENSOL OLI in the reductive aftertreatment the machines can be used for a much longer time before they have to be boiled out. Normally a boiling out is carried out after approx. ten dispersion dyeings. According to our trials with INTENSOL OLI in the reductive aftertreatment the customer can do 25 PES dyeings before another boiling out of the machine with application of INTENSOL OLI is necessary.
3) Reductive aftertreatment of polyester
(The higher value is recommended for EL/microfibers)

Preset

0.0 - 0.5 g/l KOLLASOL CDS
then add

LR: 1:3
1.0 - 2.0 % INTENSOL OLI

LR: 1:5 – 1:10
2.0 % INTENSOL OLI

4.0 - 6.0 ml/l NaOH 38 °Bé
3.0 - 4.0 g/l REDULIT GIN or hydrosulphite
(particularly for not totally flooded machines REDULIT GIN should be used instead of a reduction agent that is not stable to temperature such as hydrosulphite)

20 min, 70 - 80 °C, rinse hot and cold, neutralise

Polyester beam dyeing, black

reductive aftertreatment without INTENSOL OLI
reductive aftertreatment with INTENSOL OLI

Yarn dyeing

Only reductive aftertreatment

With INTENSOL OLI in the reductive aftertreatment bath