Sasolwax B52

Introduction
Sasolwax B52 is the lubricant of choice in processing tin stabilized rigid PVC formulations. Sasolwax B52 is produced by Sasol Wax using proprietary Fischer Tropsch Technology. The product is applied as an external lubricant when processing PVC in tin stabilized formulations.

Advantages of using Sasolwax B52 in PVC pipe extrusion
• Sasolwax B52 offers increased production output at lower dosage compared to other wax lubricants or stabilizer/lubricant packages.
• It decreases operating costs and machine costs such as labour and energy per kg extruded PVC.
• It offers reduction in lubricant formulation cost.
• It offers increased loading of filler in sanitary and potable water pipes without adverse effects on processing and pipe properties.
• It gives superior metal release properties between the polymer resin and the die.
• There is no blend agglomeration during extruder feed or hopper feeding.

Benefits on processing machinery
• It reduces the melt pressure and extends the life of barrels and screws as a result of better polymer lubrication.
• It reduces maintenance costs.

Effects on production
• It improves inner and outer surface appearance of the produced pipes as well as meeting all the QC specifications.
• It enables the operators to have better control of wall thickness variation which results in a reduction of overweight due to homogeneous melt flow behavior.

Typical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Typical value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congealing point</td>
<td>ASTM D938</td>
<td>°C</td>
<td>98</td>
</tr>
<tr>
<td>Needle penetration at 25°C</td>
<td>ASTM 1321</td>
<td>0.1 mm</td>
<td>3</td>
</tr>
<tr>
<td>Acid value</td>
<td>ASTM 1386/7</td>
<td>mg KOH/g</td>
<td>3</td>
</tr>
<tr>
<td>Particle size distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;106 micron</td>
<td>ASTM D185</td>
<td>%</td>
<td>5</td>
</tr>
<tr>
<td>&gt;2000 micron</td>
<td>ASTM D 185</td>
<td>%</td>
<td>0</td>
</tr>
</tbody>
</table>

The product has NSF approval.

Typical examples in pipe extrusion
Production of pressure water pipes (20 mm)
• 0.75 phr of B52 replaced 1.2 phr competitor lubricant in extrusion of potable water pipe.
• Savings in formulation costs were realized.
• Improved production output at lower melt pressure.
• Improved aesthetics on pipe (improved gloss and completely smooth surfaces).
• Back pressure dropped from 210 to 203 bars despite high output and higher screw speed.
• 31% increase in production output (from 342 kg/hr to 449 kg/hr).
Other examples in pressure pipe production

250 mm pressure pipe production

- 1.5 phr competitor lubricant was replaced by a combination of 0.8 phr B52 and 0.15 phr PE wax.
- Output increased from 401 kg/hr to 484 kg/hr, which is an improvement of 18%.
- The pipes had good aesthetic qualities.

Production of sanitary pipes

- 0.95 phr B52 replaced a combination of 1.0 phr competitor lubricant and 0.2 phr PE wax and 0.5 process aid.
- Formulation costs were reduced
- 20% increase in production output.

Other examples in sanitary pipe productions

160 mm sanitary pipe

- 1.5 phr competitor lubricant was replaced by a combination of 0.8 phr B52 and 0.15 oxidized wax. It led to increased production output from 382 kg/hr to 528 kg/hr. That is 38% improvement. Good appearance and passing all QC specifications.
- A combination of 1.4 phr competitor lubricant and 0.2 phr oxidized wax was replaced by a combination of 1.0 phr B52 and 0.15 phr oxidized wax. Productivity improved from 386 kg/hr to 454 kg/hr, which is 17.6% productivity improvements. Product had good aesthetics and passed all the QC tests.

Overall savings in formulation costs

According to general raw material prices, the costs could be decreased by:
- For sanitary = 1.8% per ton.
- Pressure pipe = 0.5% per ton.
At your service

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