Enhanced wire and cable applications

Jayflex™ DINP offers the optimal balance of processability and performance for your wire and cable applications.

By creating opportunities for cost savings and improved performance of wire and cable products, Jayflex DINP is a cost-effective substitute for DOP in many flexible PVC applications.

Significant cost savings (lower plasticizer density)
Alternatively, the lower density of Jayflex DINP allows the amount of filler to be increased, thereby reducing the formulation cost.

Key advantages
- Significant cost savings (lower plasticizer density)
- Increased plasticizer retention (lower volatility)
- Suitable for broader range of applications (better aging performance)
- Higher extrusion rate and productivity

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Density (g/cm³)</th>
<th>Formulation A (phr)</th>
<th>Formulation B (phr)</th>
<th>Formulation C (phr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPVC</td>
<td>1.4</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>DOP</td>
<td>0.986</td>
<td>50</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DINP</td>
<td>0.974</td>
<td>0</td>
<td>50</td>
<td>52</td>
</tr>
<tr>
<td>Filler</td>
<td>2.7</td>
<td>50</td>
<td>50</td>
<td>54</td>
</tr>
<tr>
<td>Formulation</td>
<td>Density (g/cm³)</td>
<td>1.4219</td>
<td>1.4156</td>
<td>1.4218</td>
</tr>
</tbody>
</table>

To explore your formulation possibilities, please contact your local ExxonMobil Sales Representative.

Increased plasticizer retention (lower volatility)
Due to its higher molecular weight, Jayflex DINP is discernibly less volatile than DOP, which means lower plasticizer evaporation during the gelation/fusion process and lower plasticizer loss during the product lifecycle. Along with helping you meet industrial wire and cable standards, Jayflex DINP can also help you improve the performance of your wire and cable products — from less cracking and fogging to better aging and longer service life.

Percentage of neat plasticizer weight loss
(after 24h at 155°C forced ventilated oven)

Data source: TSR 2015-048
Test Method: Based on ASTM D2288
Suitable for broader range of applications (better aging performance)

When wire and cable products age and are exposed to heat, their mechanical properties (such as elongation and tensile strength) deteriorate. This is especially true when using lower-molecular weight plasticizers such as DOP. In contrast, the superior mechanical properties of Jayflex™ DINP can significantly improve durability, extend the service life of your wire and cable products, meet a wider variety of specifications and allow your final products to be produced in a broader range of insulation thicknesses.

![Weight loss (%) vs. plasticizer phr](image1)

![Retained elongation (%)](image2)

Energy saving or higher output seen in compounding step with DINP

Jayflex DINP based compounds result in lower motor amperage (lower energy consumption) for the same output depending on extrusion conditions and equipment. At a given motor amperage, Jayflex DINP based compounds can yield higher output. Plasticizer structure and molecular weight influence the lubricating effect of plasticizer. Jayflex DINP plasticizer exhibits lower density (more volume per weight), increasing their external and decreasing their internal lubricating action. (1)

![Twin Screw (Am) - Output](image3)

![Formulation](image4)

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