

SOLUTION DATA SHEET

Pearlcoat™ TPU Enhances the Abrasion Resistance and Flexibility of PVC Compounds



Markets	Wire and hose, flooring, coatings, artificial leather, footwear
Polymers	Pearlcoat™ DIPP 119 thermoplastic polyurethane (TPU)
Key Benefits	<ul style="list-style-type: none"> • Improved Compatibility with PVC • Enhanced low Temperature Flexibility • High Mechanical Properties and Wear Resistance • Transparency

When it comes to PVC compounds, either for transportation or industrial applications, additives are required to improve impact modification resistance and flexibility at low temperatures. Today, a TPU alternative specifically developed for PVC compatibility exists to overcome most challenges.

Pearlcoat DIPP 119 TPU has shown the following benefits over traditional solutions:

- Low melting range for easy blending (120-130°C) and reduced PVC degradation
- Soft and plasticizer-free for comfort and a wider range of applications (70 Shore A)
- Polycaprolactone copolyester backbone for improved compatibility

Used as additives, TPUs make PVC parts tougher, more flexible at low temperatures and abrasion resistant, as can be seen in the charts below:

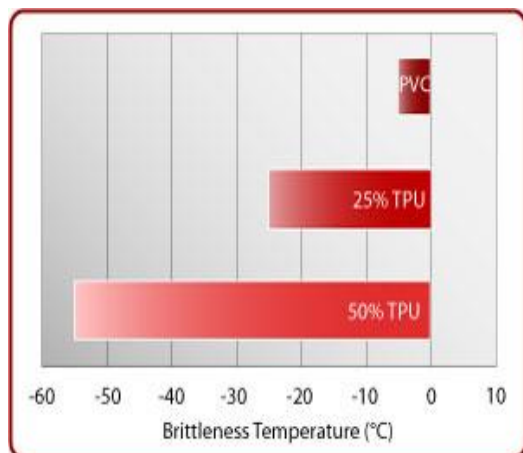


Figure 1: Brittleness enhancement of PVC/TPU blend

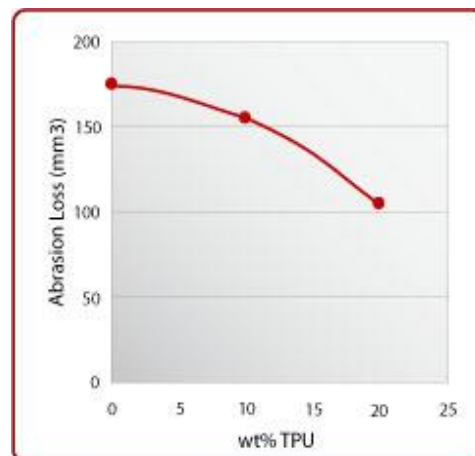


Figure 2: Abrasion loss improvement thanks to TPU in PVC

While many TPUs in the market may be said to be compatible with soft PVC, they are often hard to blend with PVC, due to standard ester chemistry with limited chemical affinity, as well as a higher melting point and hardness (75 to 85 Shore A). **Pearlcoat DIPP 119 TPU** shows a higher quality compound benefit over traditional solutions. For applications which need to use clear PVC, **Pearlcoat DIPP 119 TPU** allows transparency to be preserved.

For more information on our solutions, you can visit the Lubrizol Engineered Polymers website: <https://go.lubrizol.com/EP>