Combination of the best properties of separate materials, to create the best *Co-continuous nano-morphology.*

By grafting branch polymers to polyolefin based polymers, we can improve properties of many materials, as well as compatibilize blends.
<table>
<thead>
<tr>
<th>Item</th>
<th>Test Method</th>
<th>Unit</th>
<th>LD-PS</th>
<th>LD-SAN</th>
<th>PP-SAN</th>
<th>EB-PS</th>
<th>EB-SAN</th>
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<tbody>
<tr>
<td>Main Chain Polymer</td>
<td></td>
<td></td>
<td>LDPE</td>
<td>LDPE</td>
<td>PP</td>
<td>EBA</td>
<td>EBA</td>
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<td>Branch Polymer</td>
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<td>SAN</td>
<td>SAN</td>
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<tr>
<td>MFI</td>
<td>ISO 1133</td>
<td>g/10 min</td>
<td>57,44</td>
<td>35</td>
<td>27</td>
<td>6,8</td>
<td>6,9</td>
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<tr>
<td>Tensile Strength at Yield</td>
<td>ISO 527, 1A, 20 mm/min</td>
<td>MPa</td>
<td>5,3</td>
<td>8,5</td>
<td>28,6</td>
<td>8,8</td>
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<tr>
<td>Elongation at Break</td>
<td>ISO 527, 1A, 20 mm/min</td>
<td>%</td>
<td>11</td>
<td>9,8</td>
<td>4,2</td>
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<td>Melting Temp.</td>
<td>DSC</td>
<td>°C</td>
<td>100</td>
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<td>Appearance</td>
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## PRODUCT APPLICATIONS - GRAFTALLOY™

<table>
<thead>
<tr>
<th>Improved Properties</th>
<th>GRAFTALLOY™ Grade</th>
<th>PP</th>
<th>ABS</th>
<th>PMMA</th>
<th>PLA</th>
<th>POM</th>
<th>PA</th>
<th>PET</th>
<th>PBT</th>
<th>PC</th>
<th>mPPE</th>
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<td>Scratch Resistance</td>
<td>LD-PS</td>
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<tr>
<td></td>
<td>LD-SAN</td>
<td>●</td>
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<td>Impact Strength</td>
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<td></td>
<td>EB-SAN</td>
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<td>Thixotropy</td>
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<td>Melt Flow Properties</td>
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<td>Inorganic Filler dispersion</td>
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<td>Chemical Resistance</td>
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<tr>
<td>Matting</td>
<td>EB-SAN</td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

High performance (●●)
Good performance (●)
**PRODUCT INFORMATION**

**GRAFTALLOY™ LD-PS 06000** - is a high performance polymer alloy, consisting of LDPE, with chemically bound PS. Its main characteristics are good compatibility with polyolefins, PLA, PC, ABS, PS blends.

**Applications**
- Improve tribological properties
- Improve Melt Flow Index of blends
- Improves mechanical characteristics

**Processing**
- Can be processed with all usual processing technologies (Injection moulding, extrusion, blow moulding, thermoforming...)
- Optimal processing temperatures are between 180°C and 200°C.

**GRAFTALLOY™ LD-SAN 01000** - is a high performance polymer alloy, consisting of LDPE, with chemically bound SAN. Its main characteristics are good compatibility with polyolefins, ABS, PLA, PC blends.

**Applications**
- Improve tribological properties
- Improve Melt Flow Index of blends
- Improves mechanical characteristics

**Processing**
- Can be processed with all usual processing technologies (Injection moulding, extrusion, blow moulding, thermoforming...)
- Optimal processing temperatures are between 180°C and 200°C.
GRAFTALLOY™ LD-PS / LD-SAN - Improve tribological properties.

Example:

We measured mass loss from abrasion and coefficient of friction of:

- POM
- POM + 10 wt.%GRAFTALLOY™ LD-PS
- PTFE

GRAFTALLOY™ LD-PS improves:

- Abrasion loss
- Coefficient of kinetic friction

POM with GRAFTALLOY™ LD-PS - has better tribological properties than PTFE.
## PRODUCT APPLICATIONS FOR BLENDS - GRAFTALLOY™

<table>
<thead>
<tr>
<th>Polymer B</th>
<th>Polymer A</th>
<th>PS</th>
<th>ABS</th>
<th>PMMA</th>
<th>PLA</th>
<th>PA</th>
<th>PET</th>
<th>PBT</th>
<th>PC</th>
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<tbody>
<tr>
<td>Poly-olefin</td>
<td><strong>LD-PS PP-SAN</strong></td>
<td></td>
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<td><strong>LD-SAN PP-SAN</strong></td>
<td>LD-SAN</td>
<td>EB-SAN</td>
<td>EB-SAN</td>
<td>LD-PS PP-SAN</td>
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<tr>
<td>PS</td>
<td><strong>LD-PS PP-SAN</strong></td>
<td></td>
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<td><strong>EB-PS</strong></td>
<td>EB-PS</td>
<td>EB-PS</td>
<td>EB-PS</td>
<td>EB-PS</td>
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<td></td>
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<tr>
<td>ABS</td>
<td><strong>LD-SAN PP-SAN</strong></td>
<td></td>
<td></td>
<td><strong>EB-SAN</strong></td>
<td>EB-PS</td>
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<tr>
<td>PMMA</td>
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<td></td>
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<td><strong>EB-SAN</strong></td>
<td>EB-PS</td>
<td>EB-PS</td>
<td>EB-PS</td>
<td>EB-PS</td>
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<td>PLA</td>
<td><strong>LD-SAN</strong></td>
<td><strong>EB-PS</strong></td>
<td><strong>EB-PS</strong></td>
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<td><strong>EB-SAN</strong></td>
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<td><strong>EB-PS</strong></td>
<td><strong>EB-SAN</strong></td>
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<td><strong>EB-SAN</strong></td>
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<td>PBT</td>
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<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-PS</strong></td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td><strong>LD-SAN PP-SAN</strong></td>
<td><strong>EB-PS</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-SAN</strong></td>
<td><strong>EB-PS</strong></td>
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<td>mPPE</td>
<td><strong>LD-PS</strong></td>
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<td><strong>EB-SAN</strong></td>
<td><strong>EB-PS</strong></td>
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<td><strong>EB-PS</strong></td>
<td><strong>EB-PS</strong></td>
<td><strong>EB-PS</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Rades with **bolded names** have the **highest performance** for indicated blends*

In blends, Polymer B is in greater quantity than Polymer A.
**GRAFTALLOY™ EB-SAN**

*Improve compatibility and mechanical properties* of blends with *GRAFTALLOY™*.

Example:

- PC/PET blend
- PC/PET + 5 wt.% GRAFTALLOY™ EB-SAN
- PC/PET + 5 wt.% EGMA

![Izod Impact Strength](image1)

**Impact Strength** of blend *increases significantly*, with *only 5%* reduction in maximum tensile stress, when using *GRAFTALLOY™ EB-SAN*.

**GRAFTALLOY™ PP-SAN / EB-SAN**

*Improve Impact Strength*

Example:

Comparing Izod impact strength of:

- PBT
- PBT + 10 wt.% GRAFTALLOY™ EB-SAN
- PBT + 10 wt.% EGMA

![Izod Impact Strength](image2)

**PBT with GRAFTALLOY™ EB-SAN** *has better Izod Impact Strength than PBT with EGMA.*
**GRAFTALLOY™**

**PP-SAN 03000**

**EB-SAN 00700**

Polypropylene / Ethylene Butyl Acrylate – Styrene-Acrylonitrile Alloy

---

**PRODUCT INFORMATION**

**GRAFTALLOY™ PP-SAN 03000** - is a high performance polymer alloy, consisting of PP, with chemically bound SAN. Its main characteristics are good compatibility with polyolefins, ABS, PLA, PC blends.

**Applications**

- Improve tribological properties
- Improve Melt Flow Index of blends
- Improves mechanical characteristics
- Improve scratch resistance
- Improve thixotropy
- Improve chemical resistance

**Processing**

- Can be processed with all usual processing technologies (Injection moulding, extrusion, blow moulding, thermoforming...)
- Optimal processing temperatures are between 180°C and 200°C.

**GRAFTALLOY™ EB-SAN 00700** - is a high performance polymer alloy, consisting of EBA, with chemically bound SAN. Its main characteristics are good compatibility with polyester, ABS and PLA blends with SAN.

**Applications**

- Impact modifier
- Improves mechanical characteristics
- Increases abrasion resistance

**Processing**

- Can be processed with all usual processing technologies (Injection moulding, extrusion, blow moulding, thermoforming...)
- Optimal processing temperatures are between 180°C and 200°C.
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