Need fresh ideas to cut your packaging cost?

...Take a look at our new series of Super-Tough Surlyn®

The Challenge

Upgrade your packaging to meet today’s brands and consumers needs:

- Freshness
- Taste
- Safety
- Clarity
- Convenience
- Waste reduction

...without adding cost!

Our Solution

Re-engineer your packaging structures and deliver up to 18% cost savings...

....with no trade-offs:

- Maintained stiffness at lower thicknesses
- Maintained or enhanced mechanical properties
- Improved pack integrity

... Thanks to the new series of Super-Tough Surlyn®

For a more detailed discussion on how DuPont can help you redesign your packaging structure, please contact your local DuPont representative or visit: www.Packaging.DuPont.com

The DuPont Oval logo, DuPont™, The miracles of science™ and all product names denoted with ® are trademarks or registered trademarks of DuPont or one of its affiliates
Processed Meat
Deep Forming structure

The Challenge

Standard structure: LLDPE /tie/PA6/tie/LLDPE (Bottom web)
38 µm/10 µm/46 µm/10 µm /56 µm

LLDPE /tie/PA6/tie/LLDPE (Top web)
19 µm/5 µm/23 µm/5 µm /28 µm

Surlyn® based alternatives:
Surlyn® 1709/Nucrel®/LDPE/Nucrel®/
Blend PA 80%-Selar PA 20% (Bottom web)
24 µm/10 µm/40 µm/10 µm /27 µm

Surlyn 1709/Nucrel/LDPE/Nucrel/Blend
PA 80%-Selar PA 20% (Top web)
12 µm/5 µm/20 µm/55 µm /13 µm

Our Solution

DuPont™ alternative structures based on a blend of Selar® PA combined with
Nucrel® and Super-Tough Surlyn® 1709 layers provide uncompromised benefits:

- Direct Cost savings: 4%
- Reduced DSD* fee: 4%
- Reduced weight: 30%
- Maintained stiffness
- Outstanding gloss and clarity
- Improved thermoforming

* : Duales System Deutschland
**Improved Performance**

- Lower Seal Initiation Temperature
- Faster cycle times
- No polymer residue on seal jaws

**Test Conditions:** Sealing: Heat sealer Sentinel (heating on upper side), Dwell pressure: 0.3 MPa, Dwell time: 1 sec.

---

**Enhanced Puncture Resistance**

- Outstanding toughness
- Better Puncture Resistance with 30% less thickness

**Test Conditions:** Extensiometer ZWICK 2.5, Pointer: round shape of Ø 2.5mm, Test speed: 0.1 mm/min
Dry Food
Paper Based sachets

The Challenge

Standard structure: Paper/PE/Al/PE/PE film
50 µm/11 µm/9 µm/10 µm/40 µm

Surlyn® based alternatives: Paper/PE/Al/Nucrel/Surlyn® 1605 or Surlyn® 1709
50 µm/11 µm/9 µm/5 µm/17 µm

Our Solution

Super-Tough Surlyn® based alternative structures bring uncompromised benefits:

- Material savings: up to 13%
- Reduced DSD* fee: 5%
- Reduced weight: up to 23%
- Maintained stiffness

* : Duales System Deutschland
Improved Performance

- Lower Seal Initiation Temperature
- Higher Seal Strength

**Test Conditions:** Sealing: Heat sealer Sentinel (heating on upper side), Dwell pressure: 0.3 MPa, Dwell time: 1 sec.

- Improved Hot Tack and faster line speed
- Wider sealing temperature range

**Test Conditions:** Hot Tack Tester, Dwell pressure: 0.3 MPa, Dwell time: 0.5 s, Delay time: 0.2 s, Cross head speed: 150 mm/s

- Enhanced Puncture Resistance at lower thickness

**Test Conditions:** Extensometer ZWICK 2.5, Pointer: round shape of Ø 2.5mm, Test speed: 0.1 mm/min
The Challenge

Typical 4-ply structure: oPET//PE//Al// PE//OPA//LLDPE
25 µm//25 µm//9 µm//25 µm //15 µm//50 µm

Triplex Surlyn® based alternative: oPET//Al//LLDPE/Nucrel / Surlyn® 1605
12 µm//9 µm//66 µm/10 µm/ 20 µm

Our Solution

Super-Tough Surlyn® based alternative structures bring uncompromised benefits:

- Material Cost savings: 10%
- DSD* Tax saving: 4%
- Reduced weight: 17%
- Lower manufacturing cost (triplex)

* : Duales System Deutschland
**Improved Performance**

- Lower Seal Initiation Temperature
- Faster cycle times

**Test Conditions:** Sealing: Heat sealer Kopp (heating on both sides), Dwell pressure: 1MPa, Dwell time: 0.3 sec.

**Packaging Trials**

<table>
<thead>
<tr>
<th>Structure</th>
<th>Cycles /min</th>
<th>Temperature (°C)</th>
<th>Burst force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative (Surlyn® 1605)</td>
<td>70</td>
<td>160</td>
<td>26000</td>
</tr>
</tbody>
</table>

**Test Conditions:**
- Pouch Dimensions: 60 X 65 mm
- Filling/Sealing Tests, LA160

- Outstanding Burst Force for high packaging production speed (Application target: >10000 N)
- Clean profile with no polymer residue on seal jaws