

# Surlyn® 3D Technology

## (DESIGN - DECORATION - DEPTH)

**NEW OVERMOULDING TECHNOLOGY BASED ON SURLYN®  
TO ENTER NEW MARKETS**



**How often have you dreamt of a packaging that fully reflects your inspirations and your brand identity? Then you find out that your creativity is limited by the technical feasibility of the materials you are using.**

**Is it possible to meet the requirements of on-the-go convenient package in Cosmetic and Perfume industry with no compromise on luxury effects?**

**Now, this new Surlyn® 3D overmoulding technology enables to turn your packaging dreams into realities... Today, access new markets and truly Differentiate from your competition with Surlyn® 3D:**

- **Design freedom**
- **Decoration possibilities**
- **Depth effects**

### **PUSHING THE LIMITS OF DESIGN WITH CRYSTAL TRANSPARENCY, LUXURY DECORATIVE EFFECTS AND INCREASED SAFETY AND CONVENIENCE FOR CONSUMERS**

#### **Differentiation through packaging:**

- Light-weight, unbreakable, scratch-resistant for luxury on-the-go packages
- No risk of breakage in bathroom— providing additional consumer safety
- Cost and environmental savings in terms of transportation energy and CO<sub>2</sub> vs weight of glass

#### **Design Freedom :**

- More design freedom by enabling inner and outer containers with different antagonist shapes, including sharp edges
- Many possibilities of new visual effects ranging from crystal transparency, coloured translucence, or frosted effects

#### **Decoration Possibilities:**

- Easier and cost effective decorative effects on both the inner and outer surfaces
- Protection of decoration against scratches without coating or varnish for durable on-the-go decoration
- Play with combinations of colours, textures and shapes, both with inner and outer layers

#### **Depth effects:**

- Thick wall containers with crystal appearance
- More control on wall thickness and tighter dimensional tolerances
- Decoration in the mass allowing new visual deep effects: inclusion of materials, levitation and suspension effects



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## AN INNOVATIVE PROCESS:

This new overmoulding technology consists in two manufacturing steps including two different processing technologies:

**STEP 1:** Design and production of an inner container manufactured by Extrusion or Injection Blow Moulding or assembly of moulded parts. Several layers of different resins or materials can be used depending on the appropriate level of barrier properties and desired decorative effects. Customized inner bottles depending on your chemical resistance requirements from fragrances to skincare or nail polish and mascaras.

**STEP 2:** Overmoulding of the inner containers with Surlyn® resins by injection moulding; through a unique patented process (\*).

(\*) Overmoulding process has been developed and patented by DuPont affiliate in Japan, MDP (DuPont Mitsui Polychemicals, Ltd.)

## A UNIQUE COMBINATION OF PROPERTIES OFFERED BY SURLYN®:

Surlyn® resins are made from ethylene acid copolymers, in which the acid groups are partially neutralized, usually with either zinc or sodium ions. The acid in the polymer gives polarity and reduces crystallinity. The ionic bonding between the polymer chains gives outstanding melt strength, toughness, and clarity.

Because Surlyn® is a remarkably clear plastic, it can be used to replace glass. Unlike other clear plastics, Surlyn® is highly resistant to scratches, to chemicals and oils, it is unbreakable and enables unique packaging options for perfumes and cosmetics.



## Surlyn® 3D potential applications...

- Innovative Fragrances bottles
- On-the-go or travel size fragrance and skin care bottles
- Skin care containers
- Cream jars
- Mascara containers
- Nail polish containers
- Lipstick casings



*The prototypes shown in this document are produced to highlight possibilities of this new technology. Please consult your DuPont representative or your moulding supplier regarding commercial feasibility for industrial production.*

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The technical data contained herein is a guide to the use of DuPont films or resins. The advice contained herein is based upon tests and information believed to be reliable, but users should not rely upon it absolutely for specific applications since performance properties will vary with processing conditions. It is given and accepted at user's risk and confirmation of its validity and suitability in particular cases should be obtained independently. The DuPont Company makes no guarantees of results and assumes no obligation or liability in connection with its advice. This publication is not to be taken as a license to operate under, or recommendation to infringe, any patents.

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