

Multi-layer Solutions for Rotomoulding Industry

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Matrix Polymers

**MULTI-LAYER ROTATIONAL MOULDING SEMINAR
29th & 30th NOVEMBER/2011, BELFAST**



Applications of Multi-layer structure







Applications of Multi-layer structure







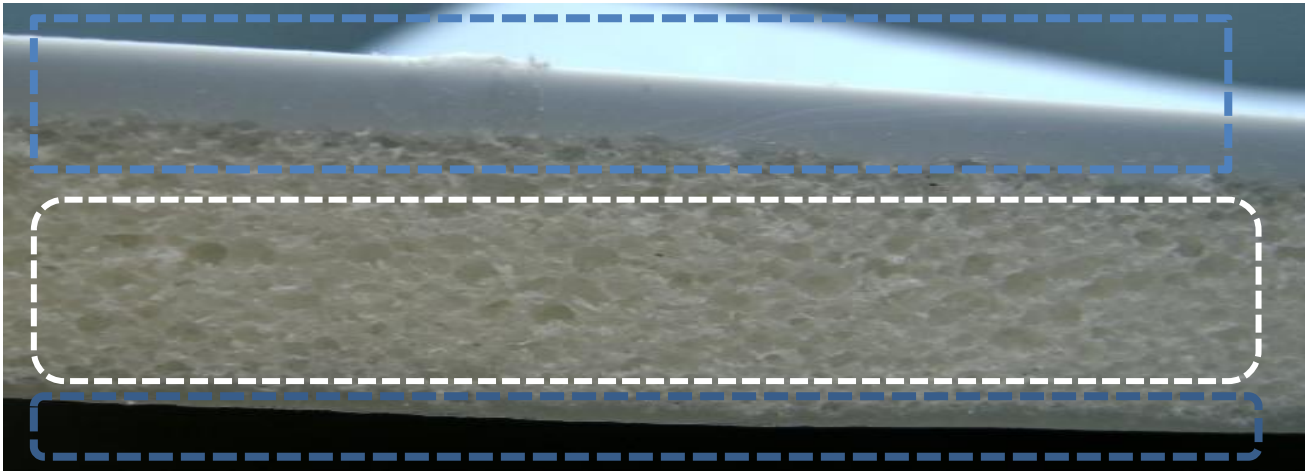
- **Stiffer without increasing shot weight**

- **Design flexibility**
- **Thermal insulation**
- **Sound insulation**

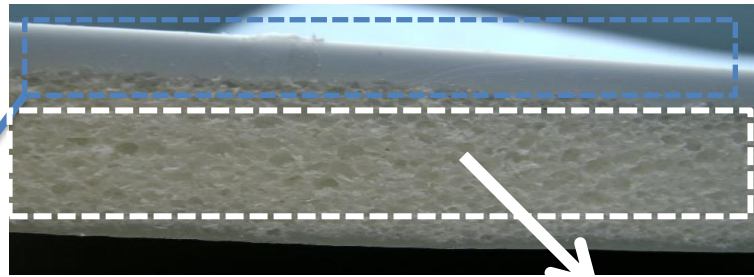


- **Without increasing material cost**

Super-Linear® and Foam: Lighter, Stiffer and Stronger



- Outer layer: **Super-Linear® PE, REVOLVE® M-601**(0.949/3.5)
- Middle layer: **Foam PE, REVOLVE® M-56** (0.310/3.8)
- 3rd layer: Normal grade PE, REVOLVE® N-250(0.935/7)



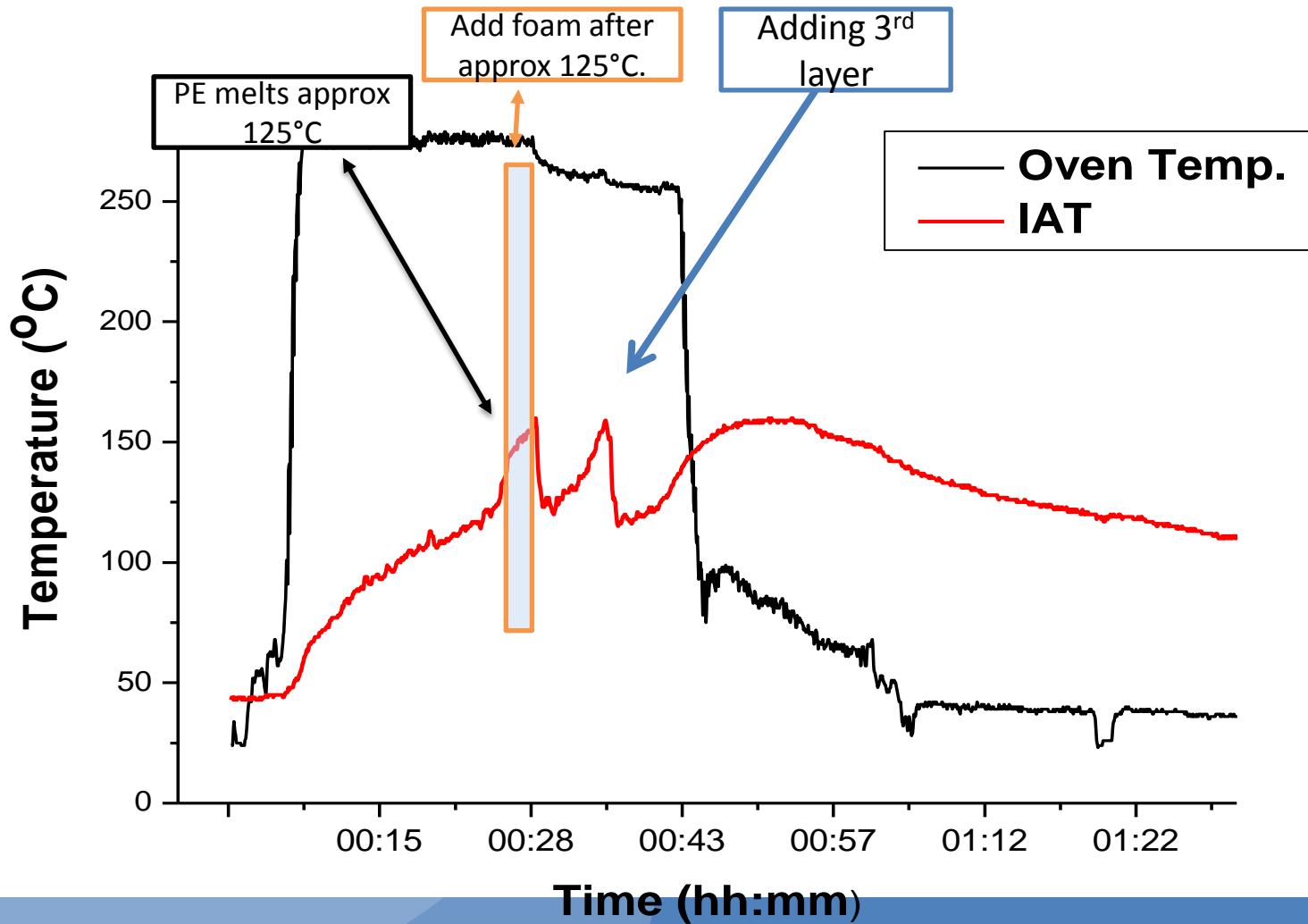
Super-Linear® REVOLVE® M-601
(0.949/3.5)

- Excellent impact properties
- High toughness
- Good mouldability
- High stiffness
- Available in natural and coloured powder

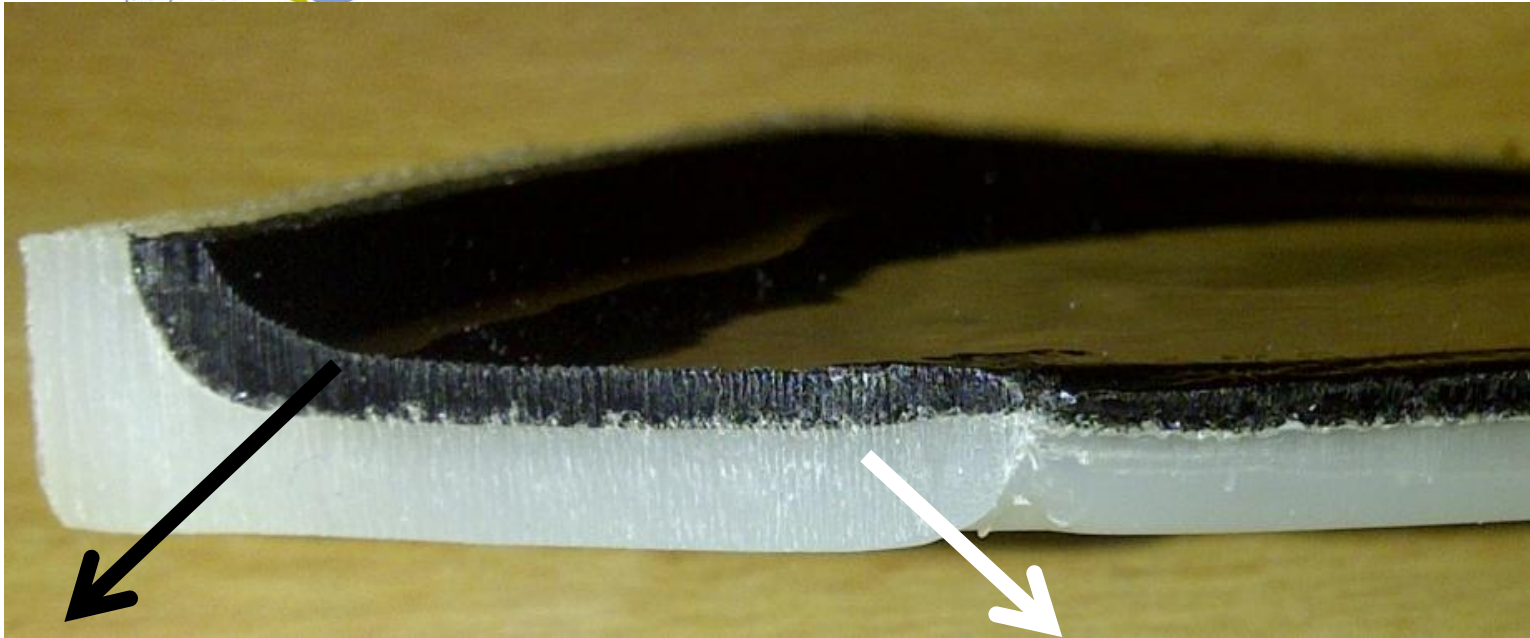
Foam REVOLVE® M-56
(0.310/3.8)

- Ultra rigid
- 20% stiffer than normal PE foam
- Expand up to 5 times
- Closed cell structure
- Available in natural and coloured powder

Easy to Mould--IAT profile



***...let's have a look at
fuel tanks now...***

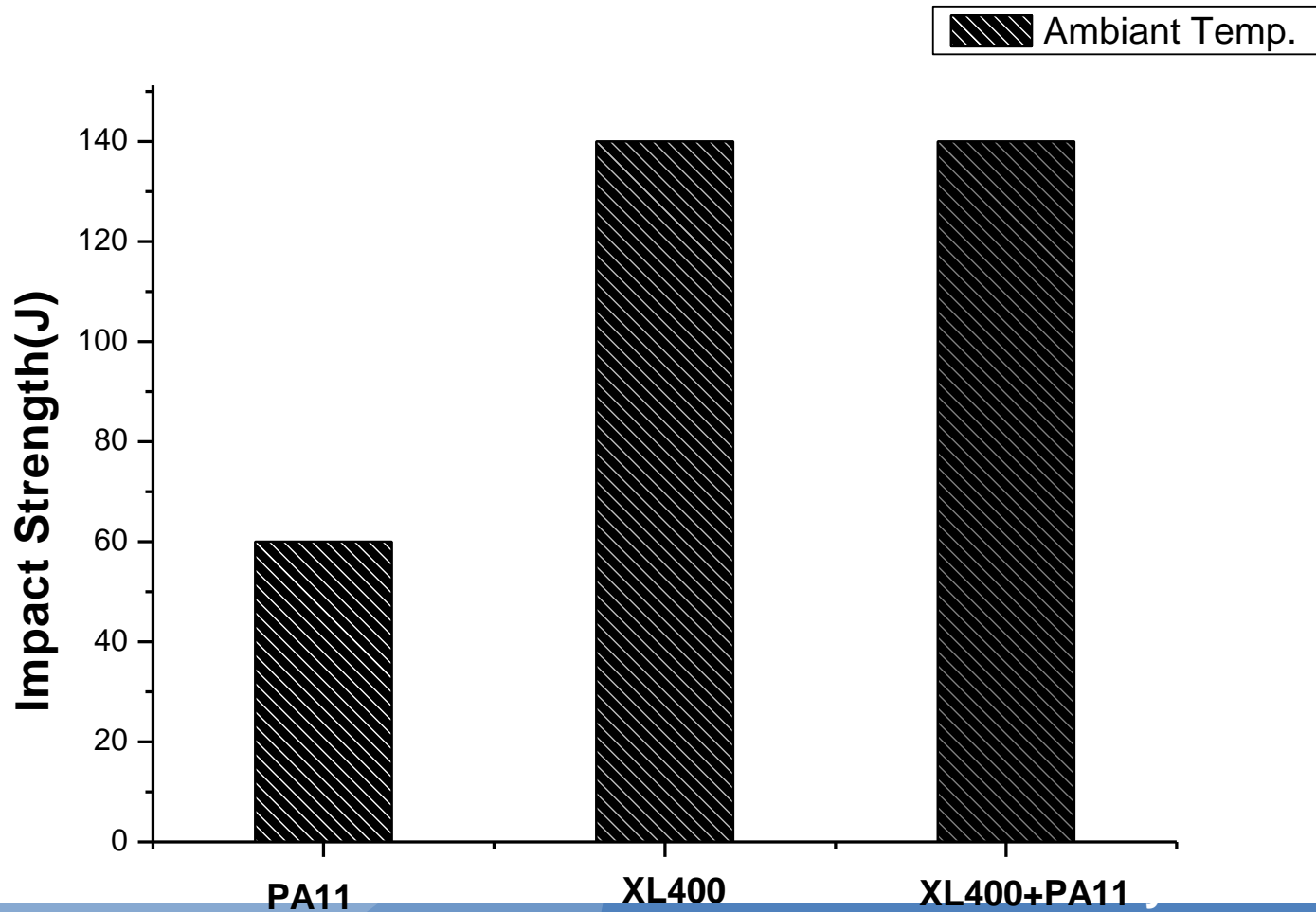


PA11 (inner layer)

- Excellent barrier to fuel permeation
- CARB approved
- Tough impact resistance
- 100% from Renewable Raw Material resource (castor seed)

REVOLVE® XL400

- High stiffness and hardness
- Excellent toughness
- Good mouldability
- Excellent impact strength
- Superb chemical resistance







We Are Ready, What about You?

Complying with Low Permeation Regulations

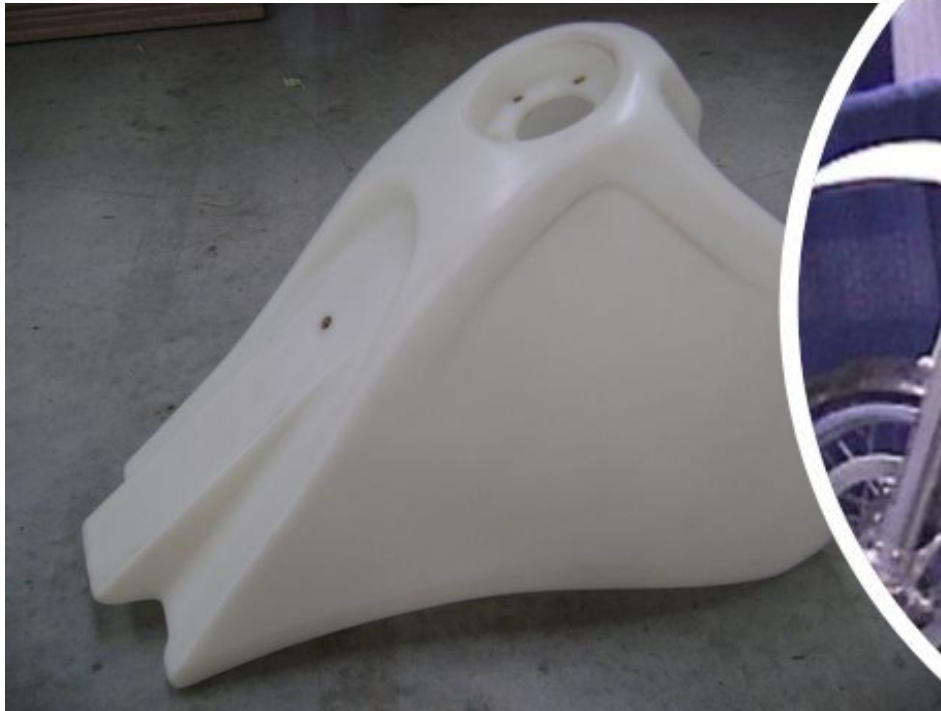
■ Applications (Gasoline)

- Motorcycle & Three Wheeler Fuel Tanks
- Recreational - ATV's, dirtbikes, jet-ski's, snow-mobiles, etc.
- Lawn and Garden Tanks
- Agricultural & Construction Equipment
- Marine Fuel Tanks

EPA/CARB regulation:
Evaporation
emission limits
comprised between
1.5 - 2 g/m²/day



matrix polymers  EXPLORE® PA12 Dual Layer



matrix polymers  **EXPLORE® PA12 Dual Layer**

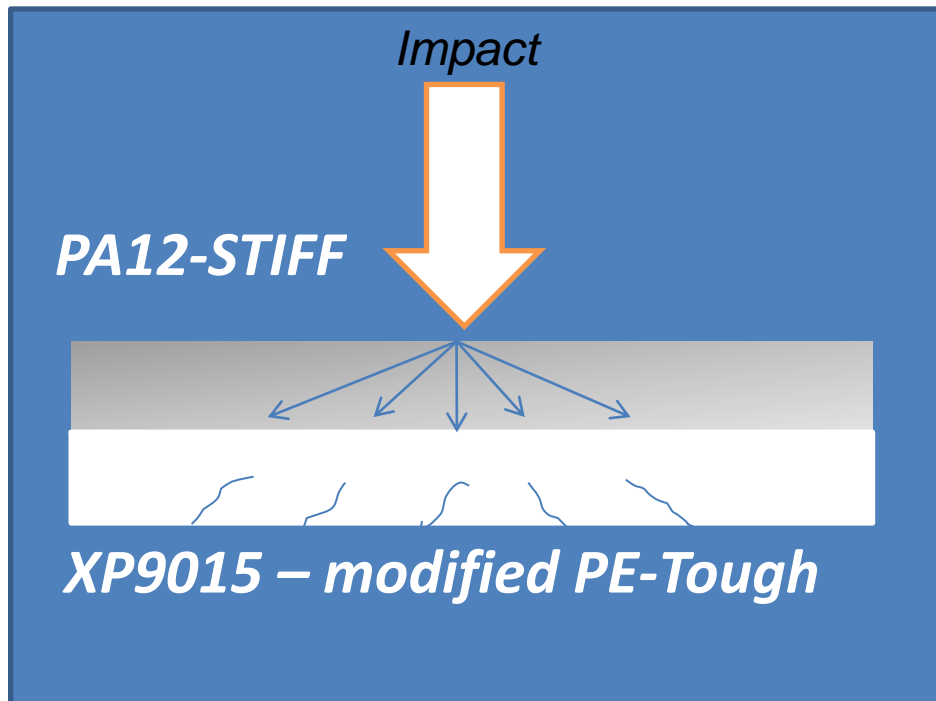


Polyamide 12 (PA12)

EXPLORE® PA12

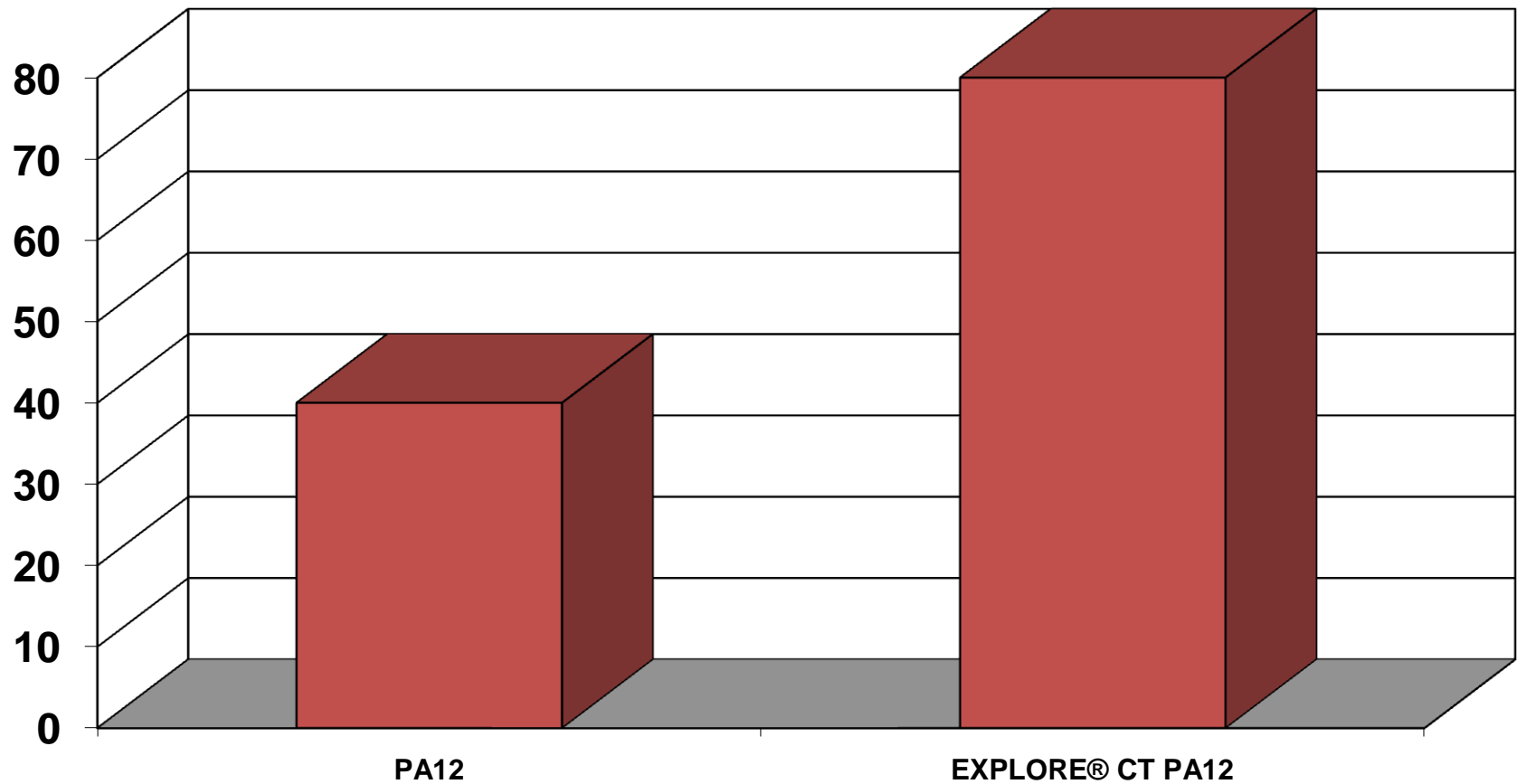
- Excellent hydrocarbons barrier
 - Excellent chemical compatibility
 - Good impact resistance
 - Paintable
 - High stiffness
 - High temp. resistance
- Dual layer PA12 (outer) and PE (inner)
 - Combine benefits PA and PE
 - Chemical bond between layers
 - Enhance the impact performance
 - Extend the field of applications
 - Paintable
 - How does it work?

EXPLORE® PA12 Dual layer--How does it work?



- Two-shot system
- PA12 outer layer
- Modified PE inner layer

ARM Impact (J) at -40 °C





Summary

- Multi-layer structures bring huge opportunities
- S/L; Foam; XL400/PA11; EXPLORE® PA12...
- Wide selection of solutions to match your requirements
- Matrix Polymers is not Just a supplier... **Solutions provider**



THANK YOU

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