

# Solar Impulse: Why Solkane<sup>®</sup> 365mfc in PUR foam?

## Sandwich Core Panel Requirements:

Density	27 kg/m <sup>3</sup>
Compressive strength	0.035 N/mm <sup>2</sup>
Tensile strength	0.85 N/mm <sup>2</sup>
Shear strength	0.35 N/mm <sup>2</sup>
Shearing at failure	10 – 15 %
E-modulus	27 N/mm <sup>2</sup>
Shear modulus	11 N/mm <sup>2</sup>
Impact strength	0.1 kJ /m <sup>2</sup>
Operation temperature	-56°C ≤ T ≤ 130°C



## **Solkane<sup>®</sup> 365mfc Benefits for PUR Foam Applications**

- ***improved insulation performance***
  - ☞ ***At outside temperatures far below zero degrees centigrade insulation matters to maintain a comfortable inside temperature for the pilot***
- ***very advantageous fire classification***
  - ☞ ***In case of fire the shell should resist as long as possible to give more time for the pilot to take life-saving actions***



- **improved compressive strength**
  - ☞ ***At inside and outside pressure differences compressive strength of the egg-shell polyurethane housing matters to assure maximum stability from outside impact as well as inside stability to prevent the shell to from collapsing***
- **improved dimensional stability**
  - ☞ ***Big temperature differences will stress the polyurethane foam and let it shrink or enlarge its designed form. Dimensional stability of the foam matters in order to maintain its dimensions to avoid fracture or losses of attached external and internal fixtures***



egg-shell prototypes PUR foam  
Blown with Solkane® 365/227 blend

