Data Sheet / Issue 02/07 / Replaces Issue KAPEX® C51 dated 07/06

AIREX® C52
INDUSTRIAL PROCESSING FOAM

Description

A closed-cell, polymer foam designed to meet the demanding requirements of high-volume industrial sandwich part production. The unique functional surfaces based on thermoplastic bonded polyester fibres reduce resin consumption while its perforation ensures a good adhesion to the laminate. The foam has a high elongation at break and shows good impact and fatigue properties. It can be formed at room temperature to simple shapes as well as thermoformed to 3-dimensional parts. The elevated temperature resistance allows short processing cycles with fast curing resin systems, including thermoplastic fibre reinforced skins (GMT) making it very suitable for mass-produced lightweight sandwich structures subjected to both static and dynamic loads in service.

Applications

- **Road and Rail**
  car bodies, headliners, deflectors, spoilers, seats, truck panels, side skirts, covers
- **Wind Energy**
  turbine generator housings
- **Industrial**
  containers, shelters, covers

Characteristics

- **high impact resistance (non-brittle failure mode)**
- **elevated short-period temperature resistance**
- **cold and hot formable to 3-dimensional contours**
- good fatigue resistance
- superior bond strength
- low resin absorption
- good sound and thermal insulation

Processing

- contact molding (hand/spray)
- compression moulding (GMT)
- thermoforming
- infusion
- resin injection (RTM)
- adhesive bonding
- prepreg processing (up to 120°C, 250°F)

Data Sheet / Issue 02/07 / Replaces Issue KAPEX® C51 dated 07/06

Typical properties for AIREX® C52			**C52.60**
Apparent nominal density	ISO 845	kg/m³ lb/ft³	60 3.7
Compressive strength perpendicular to the plane	ISO 844	N/mm² psi	0.45 65
Compressive modulus perpendicular to the plane	DIN 53421	N/mm² psi	25 3'650
Tensile strength in the plane	ISO 1926	N/mm² psi	0.55 80
Tensile modulus in the plane	ISO 1926	N/mm² psi	10 1'450
Shear strength	ISO 1922	N/mm² psi	0.45 65
Shear modulus	ASTM C393	N/mm² psi	5.0 730
Shear elongation at break	ISO 1922	%	30
Impact strength	DIN 53453	kJ/m² ft.lb/in²	1.0 0.5
Thermal conductivity at room temperature	ISO 8301	W/m.K BTU.in/ft².hr.°F	0.036 0.25
Plain sheet width length thickness		mm ± 10 in mm ± 10 in mm ± 1.0 in	1200 47.24 2500 94.48 5 to 25 0.197 to 1
Color			off white

Other dimensions upon request

The data provided gives approximate values for the nominal density. Due to density variations these values can be lower than indicated above. Minimum values to calculate sandwich constructions can be provided upon request.
The information contained herein is believed to be correct and to correspond to the latest state of scientific and technical knowledge. However, no warranty is made, either expressed or implied, regarding its accuracy or the results to be obtained from the use of such information. No statement is intended or should be construed as a recommendation to infringe any existing patent.

Alcan Airex AG
Industrie Nord
CH-5643 Sins, Switzerland
Tel: +41 41 789 66 00
Fax: +41 41 789 66 60
www.alcanairex.com

Alcan Baltek Corporation
10 Fairway Court, P.O. Box 195
Northvale, NJ 07647, USA
Tel: +1 201 767 1400
Fax: +1 201 387 6631
www.baltek.com