

Increased peel strength

Due to its fine cell structure, AIREX[®] C71 shows an excellent bonding behaviour. It is compatible with all marketable resins and adhesive systems and resistant to organic solvent migration. In combination with its elevated temperature resistance the excellent cell structure is a significant advantage for instance when employing bonding techniques with thermal treatment. With AIREX[®] C71 such techniques lead to extraordinary high peel strength.



After the peel test the surface of the peeled-off skin is found covered with foam. This illustrates the high quality bonding resulting from the increased peel strength of AIREX[®] C71.



AIREX[®] C71 ELEVATED TEMPERATURE STRUCTURAL FOAM

Summary

AIREX[®] C71 is a lightweight, closed cell foam with an elevated temperature resistance. It offers very high ratios of stiffness and strength to weight and excellent volume stability. The foam is suitable for statically and dynamically loaded lightweight sandwich constructions which are exposed to raised temperatures during manufacturing or in service.

AIREX[®] C71 has the following main characteristics:

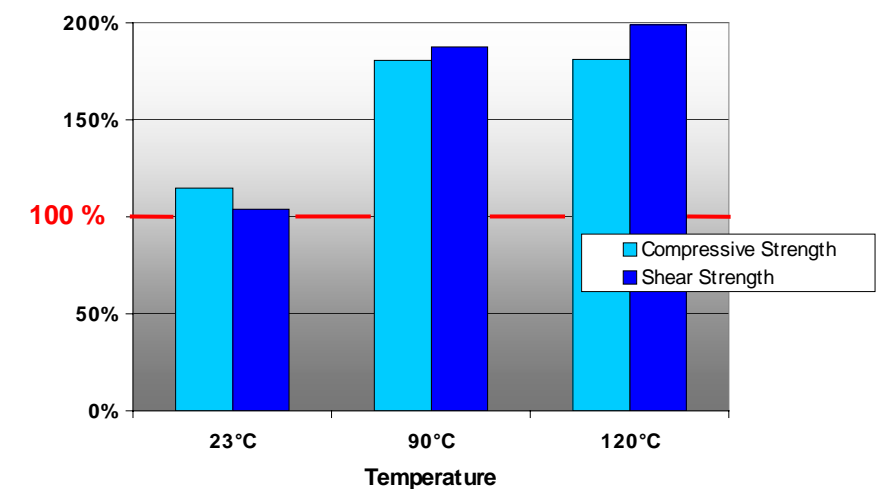
- High temperature resistance (processing up to 140°C)
- Outstanding mechanical properties
- No water absorption
- Non brittle characteristics
- Excellent flexural behaviour
- Increased peel strength

High temperature resistance

Prepreg systems and other hot curing formulations often require curing temperatures above 100°C in combination with high pressures. For such application only structural foams with improved properties can be used.

AIREX[®] C71 with its outstanding properties is a cost effective solution for manufacturing processes where increased processing temperatures are involved. Furthermore, AIREX[®] C71 is ideally suitable for parts which are exposed to raised temperatures during service life.

AIREX[®] C71: Significant higher mechanical properties at elevated temperature (Conventional crosslinked PVC = 100 %)

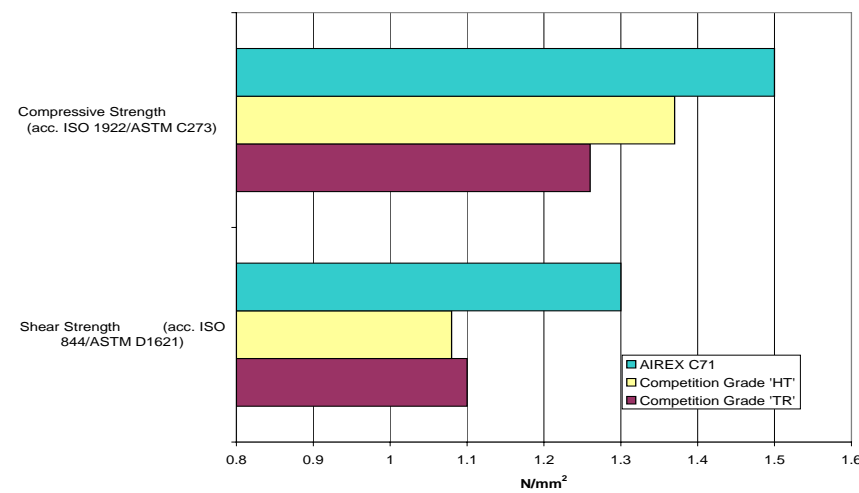


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Outstanding mechanical properties

For light weight sandwich structures the quality of the foam core is a decisive factor in the mechanical properties of the whole system. Accordingly, special emphasis has been given to the static and dynamic properties of AIREX® C71. In comparison with other crosslinked PVC foams for elevated temperatures, AIREX® C71 is unequalled in most relevant mechanical properties such as compressive and shear strength.

AIREX® C71: Best Shear and Compressive Strength in its Class

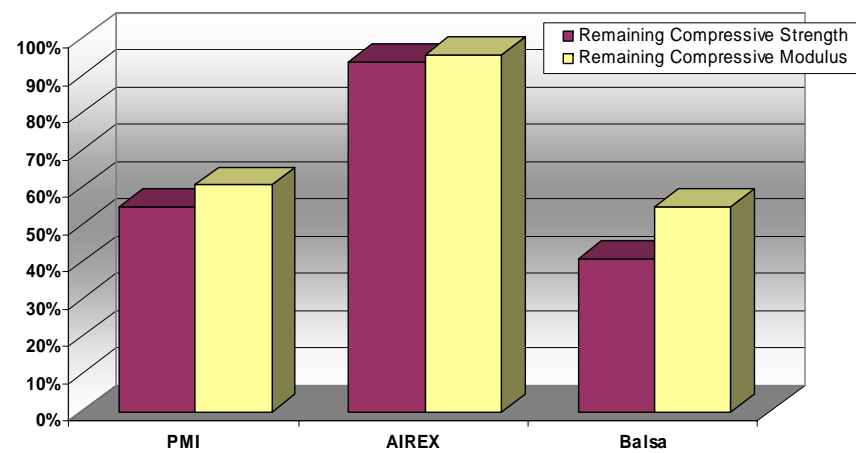


Mechanical properties of AIREX C71 in comparison to other available high temperature crosslinked PVC core

No water absorption

Compared to other higher temperature core materials, AIREX® C71 does not absorb any water or moisture and consequently the mechanical properties remain constant even when in contact with water over a longer period.

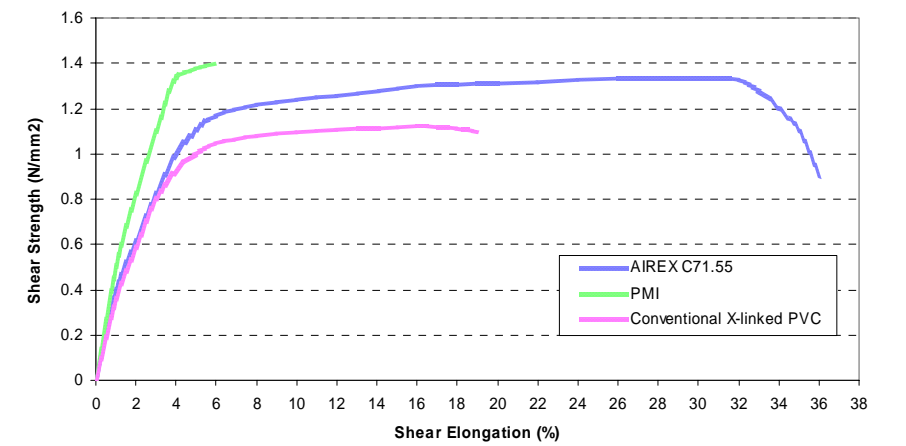
Remaining Strength and Stiffness in Humid Environment



Remaining Compressive Strength and Compressive Stiffness of different core types after 7 days water contact at room temperature compared with performance when dry. Density range: foam 80 kg/m³, Balsa 200 kg/m³

Non-brittle characteristics

A high shear elongation is a sign for the non brittle character of structural foam for sandwich systems and is considered as an important value. AIREX® C71 shows a high shear elongation of 36 % which underlines the non brittle character of this product.



Excellent flexural behaviour

AIREX® C71 is very flexible and can be used in curved moulds to a certain extent. Additionally, thin, large sheets do not break during handling. This advantage can be expressed with the cold bending radius.

AIREX C71: Possible cold bending radius

