

AIREX[®] C70 UNIVERSALLY STRUCTURAL FOAM

Summary

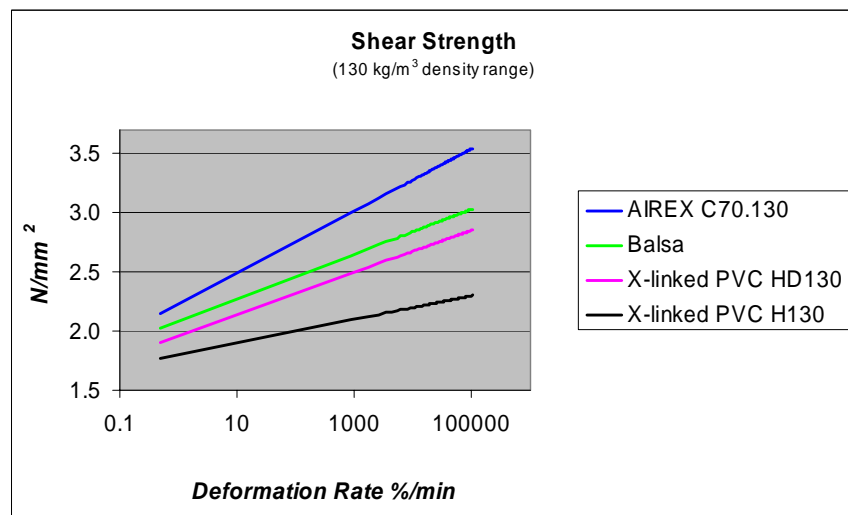
AIREX[®] C70 is a lightweight, closed cell foam for universal use in sandwich constructions. Its excellent stiffness and strength to weight ratio and high toughness make it suitable for a large variety of applications. The foam is ideally suited for statically and dynamically loaded structures and is compatible to all resin systems.

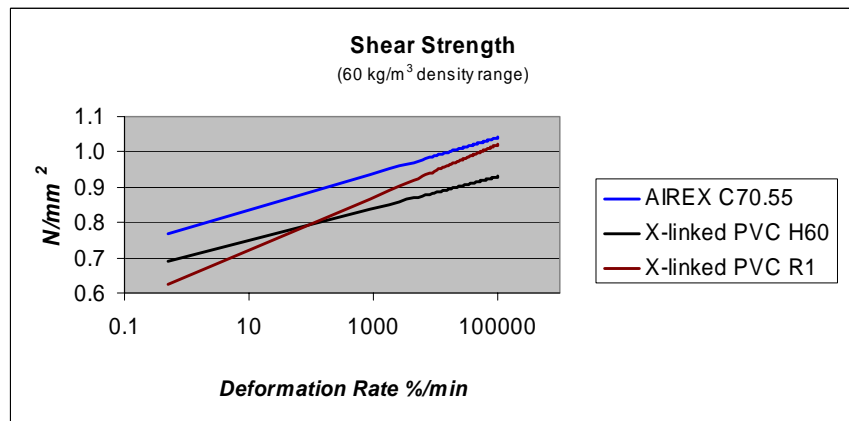
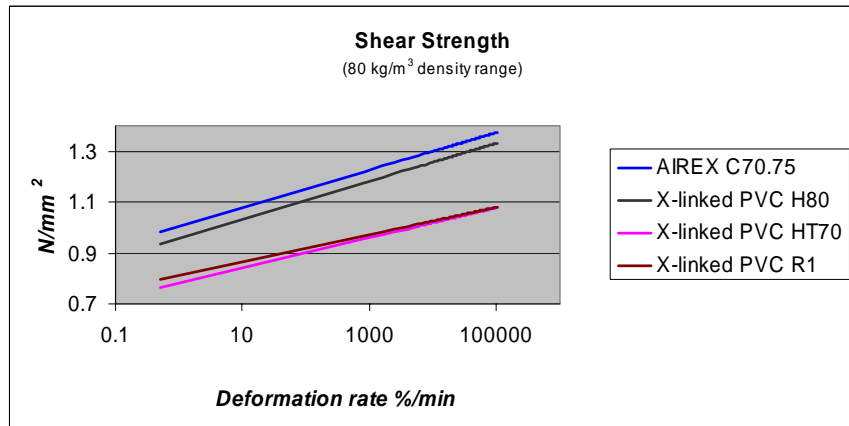
AIREX[®] C70 has the following main characteristics:

- High strength and stiffness to weight ratio
- Rot resistant
- Good thermal insulation
- Self-extinguishing, good fire behaviour
- very low water absorption
- Negligible resin take-up

Excellent mechanical properties

A main function of the core in a sandwich is the transfer of the bending loads between the skins. In this load case, the core is stressed in shear. Consequently, shear strength is one of the most important properties of a sandwich core. When comparing different available core materials of the same class AIREX[®] C70 has significant advantages in mechanical properties. The following charts show the measured shear strength of comparable core materials in different available densities at various deformation rates. A high shear strength at high deformation rates is most important in assuring the integrity of a sandwich under impact loading conditions. Also in other properties such as compressive strength, shear and compressive modulus, AIREX[®] C70 reaches equal or higher values than other core materials of the same class.

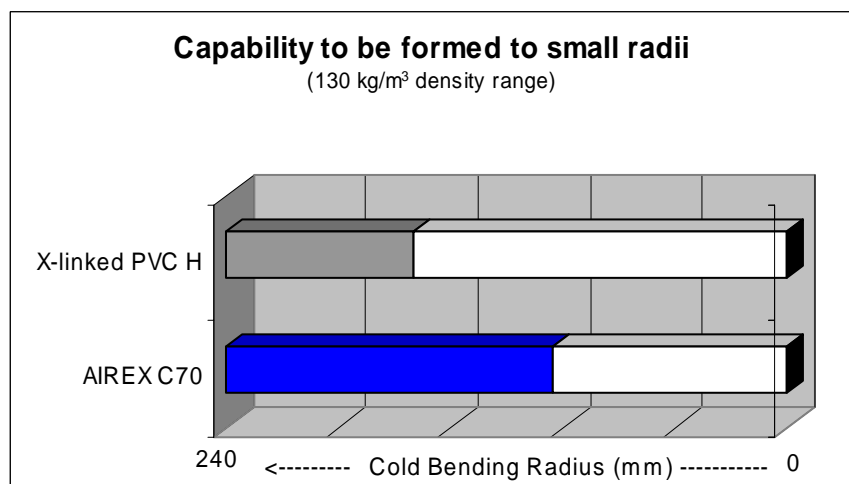




Test procedures for all densities according to ISO 1922

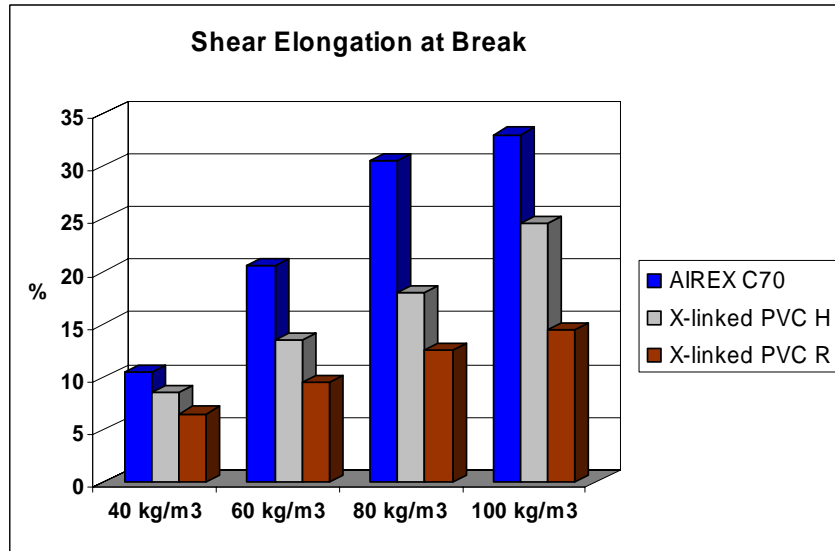
Flexural behaviour

AIREX[®] C70 is very flexible and can be inserted into curved moulds to a certain extent. Very thin, large sheets do not break which makes it easier for handling and reduces costs. With the cold bending radius the flexural behaviour of a foam core can be determined.



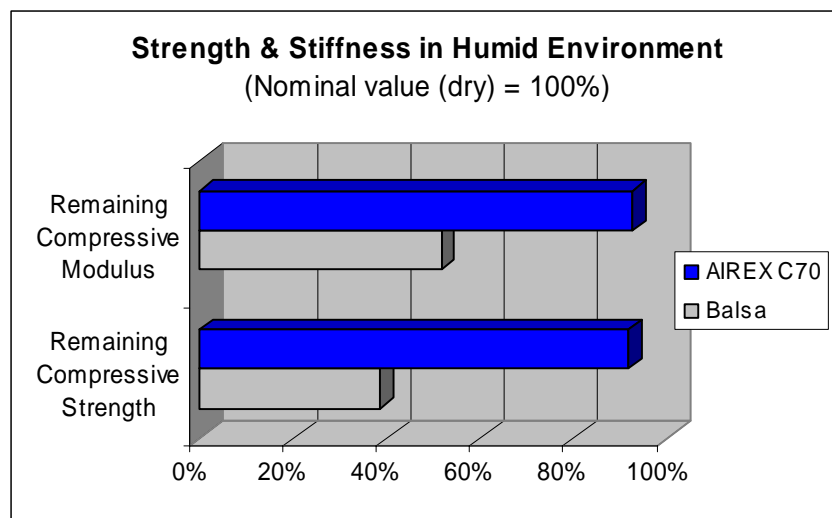
Non-brittle characteristics

By adapting the chemical formulation, static properties of a foam such as shear and compressive strength can be positively influenced. However, this can reduce dynamic strength considerably and lead to brittle behaviour. With its sophisticated formulation AIREX[®] C70 succeeded to combine high resistance against shear and compression loads as well as dynamic toughness. A sign of its tough behaviour is the superior elongation at break compared to other core materials (test procedures acc. ISO 1922).



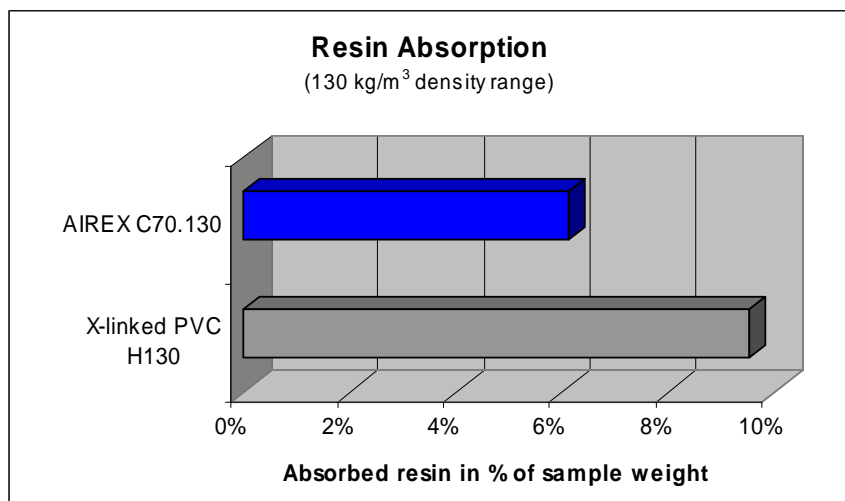
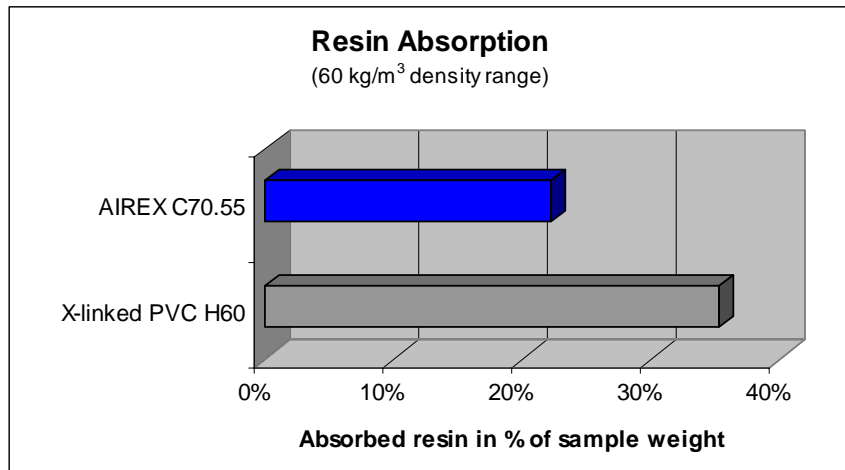
Very low water absorption

When using natural core materials such as balsa, e.g. in the marine industry the operational and environmental conditions need exact consideration. Cracks in the skins or humid conditions in the storehouse or when processing can reduce the mechanical properties of such materials substantially, whereas PVC core materials such as AIREX[®] C70 absorb practically no water and retain the initial strength and stiffness.



Low resin absorption

AIREX[®] C70 is well known for its fine cell structure and constant cell dimensions. Among others these characteristics minimize resin absorption of the foam surface resulting in lower weight, better interface performance between core and skin and resin savings.



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