Technical Information Phonotherm[®]200

Phonotherm[®]200 boards are made of recycled high quality CFC- HCFC and formaldehyde-free polyurethane hard foams. In a special composition including the addition of auxiliary materials the recycled polyurethane foam is pressed into high quality boards. Phonotherm[®]200 is a functional material that convinces through extraordinary properties. Phonotherm[®]200 is moisture resistant and has excellent thermal insulation properties. Its resistance to moisture makes Phonotherm[®]200 far superior to conventional wooden boards such as wooden particle boards and MDF boards, yet it has similar machining properties. Phonotherm[®]200 can be machined using normal carbide tools and is even suitable for detailed milling.

Phonotherm[®]200 is also resistant to chemicals, easy to work and can be laminated and bonded efficiently to other materials using polyurethane glue.



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Technical Data:

Phonotherm [®] 200	RG 550		RG 700	
Material	CFC- HCFC and formaldehyde-free polyurethane hard foam material			
Raw density	550 ± 50 kg / m 3		700 ± 50 kg / m 3	dep. on thickness
Bending strength*	>5 N / mm²		>7 N / mm²	dep. on thickness
Modulus of elasticity*	>450 N / mm ²		>450 N / mm ²	dep. on thickness
Screw withdrawal resistance*	>600 N		>750 N	dep. on thickness
Thickness swell* after 24 h in water	approx. 1 %		approx. 1 %	Intern.
Water absorption* after 24 h in water	approx. 5 %		approx.5 %	Intern.
Dimensional change* after 24 h in water	approx. 0,46 %		approx.0,4 %	Intern.
Thermal conductivity λ_{10}	approx. 0.076 W / (m·K)	a	pprox. 0.10 W / (m·K)	EN 12 667 / DIN 52 612
Fire behaviour	Building material class B2 non-flammable drop free	Bui no	ilding material class B2 n-flammable drop free	DIN 4102
	Class E		Class E	DIN EN 13501-1
Residual moisture	approx. 5 %			
Thickness tolerance, not sanded	± 0.4 mm			
Thickness tolerance, sanded	± 0.2 mm			
Thermal stability	– 50 °C to + 100 °C			
Resistance against ageing	resistance against putrefaction and non-rotting			

*values measured for a 15 mm board thickness.

Dimensions:

Standard board sizes:	2400 x 1350 mm 3600 x 1350 mm		
Thicknesses:	RG 550 kg / m³ RG 700 kg / m³	from 15 mm to 60 mm from 10 mm to 50 mm	

Other sizes and thicknesses are available upon request.

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In principle, special board sizes and thicknesses as well as bespoke parts and laminated boards are possible - we can tailor the boards to suit most of your needs.

This requires a detailed discussion based on the intended application, product specification and drawings. Please contact us and we will guide you through the process.

The advantages:

- economical
- moisture resistant
- does not age or rot
- good thermal insulation properties
- very good resistance to chemicals

- recyclable
- biologically and ecologically harmless, resistant to fungae and rot
- easy to work

- Examples of applications:
- Inserts for refrigerated trailers and wind turbines
- Core material for bath room doors
- Core material for bathroom furniture
- Profiles for facade structures
- Core material for work tops for kitchens, bathrooms, clean rooms, canteens and laboratories
- Reinforcement of sandwich panels for mounting fixtures, screws etc.
- Core material for lockers in publics baths
- Insulator for marine decks

Environmental protection:

Processing waste of Phonotherm[®]200 is 100% recyclable. Phonotherm[®]200 is free of formaldehydes and does not emit physiologically significant quantities of chemical substances.

Processing:

Use conventional tungsten-carbide tipped woodworking machinery for processing. In principle, we recommend an extraction system. The dust created during machining (sawing, grinding, milling) is physiologically harmless and not fibrous. Pre-drill before screwing or use self-drilling screws. Phonotherm[®]200 offers a good screw hold, the material can be milled, ground and drilled and has excellent bonding qualities.

Gluing:

Gluing of butt joints of boards, cuts and strips is simple, using 2-component polyurethane adhesives. Both single and 2-component polyurethane adhesives are suitable. Please ask for our assistance for your specific application.

Storage and transport:

Phonotherm[®]200 should be stored dry and on a flat surface. It is not subject to the ordinance on hazardous substances or other storage and transport regulations.

Please note:

The information herein has been compiled to the best of our knowledge, based on our experience and on tests conducted by us. However, it is non-committal and should not be considered a warranty of properties in the meaning of the jurisdiction of the German Federal Supreme Court (BGH). It is our knowledge as of the time of print. Subject to alterations.

Due to the versatility of our products, we recommend to try our product for suitability on original materials before approving it for use. Our application engineering department will be happy to assist you. All our products are subjected to stringent quality control. This Technical Fact Sheet supersedes any previous versions and will be effective and valid until the publication of a newer version or until 31.12.2015. Please request the new version as from 01.01.2016.