CLASSROOM SHELLS REFERENCE SHEET

SOLIWOOD

EXPLANATION OF MATERIAL

Soliwood, or resin-impregnated compressed wood, is a laminate, which is a compressed substance manufactured from veneering of copper beech and a hardened resin. Phenol-formaldehyde condensation resin is preferred as a resin. Density is at least 800 kg/m3 and the number of veneer layers at least 5/cm (average of 17 layers of veneer per shell).

VENEER MANUFACTURING

Trunks of copper beech of a diameter of 45-100cm are steamed at a temperature of up to 80 degrees Celsius after being examined for growth flaws and classified depending on quality.

VENEER RESIN-IMPREGNATION

Dried veneer sheets are soaked or coated in phenol-formaldehyde soaking resin solution. Through the process, the veneers have a higher elasticity and can sustain greater deformation without cracking, breaking or cutting.

RESIN COMPOSITION

Resin contains volatile components of phenol (1-3%), sodium hydroxide (0.5-2%) and formaldehyde (0.2-1%).

VENEER FINISHING

The user side of the surface is fitted with melamine overlays to further the surface hardness and thickness. The shell is compressed into a high-strength molding at a temperature between 135 and 160 degrees Celsius under high pressure on a hydraulic press. After molding, shell is held in a clamping device for cooling in order to maintain the desired geometric shape.

PRODUCT MATERIAL PROPORTIONS

Wood: 75-85% of which about 4-5% is water contained as a natural component in the wood. Resin: 15-25% consisting mainly of phenol and other bonding agents. Other substances: 1-2% including melamine overlays and other decorative papers all of which are considered harmless and environmentally safe.

ORIGIN OF WOOD

The copper beech is the most common deciduous tree in Germany (14%) and is present all through Central Europe. The wood used for the soliwood product primarily comes from Germany, France or Poland. The copper beech is used for its strength and fine pores as well as its many technical advantages which are important to the manufacturing process. Beech is cut between 40 and 70 years of life and is a widespread native tree.

RESIN INGREDIENTS

For our resin type, there are volatile parts of phenol (1-3%), sodium hydroxide (0.5-2%) and formaldehyde (0.2-1%), which are only present in the liquid resin.

GAS EMANATION RISKS

No harmful emissions are to be expected from the resin during proper processing of the resin.

MELAMINE OVERLAY DETAILS

Moldings are made form resin-impregnated compressed wood. The shells are sealed on the user side with a melamine overlay in order to increase surface resistance, to increase the thickness of the closed-porous user side and to offer additional protection against aggressive cleaning agents

AIRLEY

Shell is a one-piece injection molded polypropylene shell with integral hand-hold on the top, rear of the back. Arch of chair spine gives the shell flexibility and an ergonomic design. Unique plastic boss locations allow ease of mating to a collection of Vanerum•Stetler frames, providing a consistent look while meeting a variety of applications. The shell is attached utilizing a custom plastic screw design to promote efficient material displacement and reduce pull-out forces. The shell and frame are protected by a plastic spacer to eliminate surface scratches when storing the chair on the desk surface.

AIRGO SHELL

The 10mm multi-ply construction of the Airgo shell makes it a durable and design oriented shell for the classroom. Option to laminate or clearcoat the beech wood finish with upholstery also available. The shape of the shell provides an ergonomic support with gradually sloped edges for leg and lower back comfort.

VIGGO XS & VIGGO XL SHELL

Both the XS and XL models are constructed of 10 mm beech ply. (Variance in dimensions between the XS and the XL give the option of choosing the sixe to provide optimal comfort for any user). All shells are finished with a top layer of either laminate or a two-component lacquer to protect the durable shell. The shape of the shell provides an ergonomic support with gradually sloped edges for leg and lower back comfort. Available with Handle integrated into shell for easy moving. Also available with upholstered seat and back.

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HARD PLASTIC

All seats of our premium furniture line are molded from 5/8" thick solid thermosetting melamine plastic. These seats are designed for high-traffic commercial and institutional use. Vanerum•Stelter chairs and classroom furniture components are virtually indestructible and easy to clean. They are available in a variety of wood-grain colors and finishes. Vanerum•Stelter chairs are made with reprocessed (possible contribution to LEED certification requirements, contact us for details) maple and birch wood flour mixed with melamine resin, then heated in molds under high pressure. Seamless construction halts de-lamination, chipping, and bacterial growth. They're resistant to household and commercial cleaning solvents, and highly sanitary under the most demanding conditions.

POLY SHELL

The poly shell has an incredibly strong and durable thermo-plastic shell, which assures correct posture and provides maximum comfort for sustained periods of sitting. An arched back with sculptured cutout provides excellent ventilation.