

## Uses and Manufacturing of Beech Corrugated Plywood

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**Abstract :** The poster deals with the issue of ISO shipping containers' sheathing made of corrugated plywood instead of traditional corrugated metal sheets. It was found that the corrugated plywood is a suitable material for the sheathing due to its great flexural strength perpendicular to the course of the wave, sufficient impact resistance, surface compressive strength and low weight. Three sample sets of different thicknesses 5, 8 and 10 mm were tested in the experiments. The tests have shown that the 5 mm corrugated plywood is the most suitable thickness for sheathing. Experiments showed that to increase bending strength at needed value, it was necessary to increase the weight of the timber only by 1.6%. Flat cash test showed that 5 mm corrugated plywood is sufficient material for sheathing from a mechanical point of view. Angle of corrugation was found as a very important factor which massively affects the mechanical properties. The impact strength test has shown that plywood is relatively tough material in direction of corrugation. It was calculated that the use of corrugated plywood sheathing for the containers can reduce the weight of the walls up to 75%. Corrugated plywood is also suitable material for web of I-joists and wide interior design applications.

**Keywords :** corrugated plywood, veneer, beech plywood, ISO shipping container, I-joist

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