

CRAFT

SYNTHESIS REPORT 'FOR PUBLICATION'

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TITLE: "DEVELOPMENT OF A PRODUCTION PROCESS FOR THE
ELIMINATION OF THE WOOD VENEER **BREAKING** IN ITS
USE AS A **MOULDING COVER**"

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ARZAMENDI
BARBERAN
STANLEY COLE
MERENDA
PREMIUM PANELS
JOWAT

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2. SUMMARY PAGE

2.1. *Keywords*

Veneer, wrap, moulding, wood, cracking.

2.2. *Abstract of the results and benefits of the project*

The present project has studied the wood veneer breaking in its use a moulding cover. Actually, little radii moulding covers are broken when wrapping with wood veneers. Besides, some types of wood veneers are easier to be broken. Nowadays, most of mouldings are wrapped with paper backing veneers that are deeply sanded.

This project offers a moulding wrapping process avoiding the paper backing and the sanding of the wood veneers.

After a vast work of two and a half years in the characterization and study of the supports, wood veneers and adhesives, as well as of the variable incidents in the bottom line, it can be concluded which can be the best operative way to cover the mouldings with wood veneers.

In first place it is recommended a spraying of the wood veneers with water steam for about 30 seconds at 120°C for both faces. Immediately after the wood veneer should pass through a line of 6 to 8 rollers on line for the impregnation of the veneers with the resin Incorez W 830/118 for one of the faces. The veneer would pass through an infrared tunnel, where the resin would be dried. Nevertheless, the temperature of the tunnel would be as homogeneous as possible. Besides, that temperature must not be very high, since it impacts negatively in the wood veneer making it wizened.

After the drying, the wood veneer would be introduced into a moulding covering machine, where it would be glued for the face for which is going the resin to the substrate.

All this process must be continuous and mechanized. It is fundamental that none of the incident parameters such as the temperature, the times of application, the quantities of material added neither the dampness of the wood veneer suffer variations, "since they are determinant factors in the bottom line. -

3. THE CONSORTIUM

3.1. Partner organisations

3.2. Consortium description

4. TECHNICAL ACHIEVEMENTS

Wood veneers very often crack when are used over small radii mouldings or quite difficulty desing door substrates.

The cut veneers are subjected to a drying process and sometimes to protective treatments against fungi and insect attack which, at the same time, offers some form of stabilisation.

As a result of the above process, the variety of geometric shapes with small radii of curvature required by present designs, inevitably results in cracking.

This problem has been partially solved by several techniques such as the introduction of a paper of fleece to provide a flexible backing which binds the veneer surface and helps to minimise veneer cracking.

Films, currently placed between the veneer and the substrate, are impregnated with polyvinyl acetate because of the excel lent compatibility with adhesives used "in the" bonding of veneers to substrates. In this way we can be assured that no dangerous reaction wil I occur.

Unfortunately, the end results are not as good as required. Sometimes, the paper becomes detached and even exacerbates veneer breaking instead of preventing it. At other times, its preventative action is not sufficient to prevent veneer splitting.

Next lines are addressed to understand the problem of veneer c racking and will provide a solution to this problem.

The manufacture of natural wood veneer covered mouldings represents an important amount of money and the quality requirements for this king of covering is becoming more demanding and user firms have forced the supplying industries to adopt a posi ion with strong investment commitments for quality improvement.

Raw materials characterization

The proposed impregnation process for wood veneer commences with the purchase and import of raw material in log or veneer form from many countries or s imp] y purchased from national timber dealers in veneer form. The wood used for this particular market has to be of very high quality with minimal twisting along its length.

Raw materials must be tested and characterized when they are bought to detect any qua] ity variation 'or default. Wood veneers, substrates and adhesives quality must always be controlled.

Steaming process

Steaming with water enhances wood veneers flexibility. A good control of moisture absorption helps to detect the ideal steaming for each veneer.

The use of several wetting additives is not recommended as a prior treatment. Nevertheless, steaming with water is an irrefutable prior treatment.

Impregnation with resins

The impregnation of wood veneers with some resins by rollers over one side is the proposed way. After the study of a wide list of different chemical nature resins there has been selected a resin to be added to the wood veneers.

This way improves the performance of the wood veneer by enhancing its elasticity and thus its ability for shaping, becoming the wood veneer resistant to splitting and cracking. Besides, the impregnation retains surface properties and it does not disturb the final product.

Impregnated resins must be dyed before or after the impregnation. Nevertheless, it is recommended to dye before the impregnation.

There is not any problem to lacquer the impregnated wood veneers. The adhesives and coatings are compatible with the impregnation.

Refused materials

- . The steaming with wetting additives and hydrogen peroxide.
- . The use of a dry treatment by incorporation of prepared polymeric films.
- “. The use of papers and fleeces as backings

Refused way

- . The autoclave

Proposed way.

- . Steaming of veneers with water
- . Application of the proposed resin on a rollers line over one side of the wood veneers
- . Drying of the resin
- . Re-steaming
- . Wrapping

Achievements

- . Resin
- . New wrapping process
- . Knowledge of the optimal parameters of the lines

5. EXPLOITATION PLANS AND FOLLOW-UP ACTIONS

	DYMSA	PLAISA	GREEN NATURE	ARZAMENDI	BARBERAN	STANLEY COLE	PREMIUM PANELS	MERENDA	JOWAT
Raw materials supply			X						
Raw materials consumption	X	X	X	X		X	X	X	X
Development of new machinery					X				
Technological development	X	X		X	X	X	X	X	
Technological diffusion-publicity	X	X	X	X	X	X	X	X	X
Sale of wood veneer covered mouldings	X	X		X		X	X	X	

The companies will carry out a prior technical and economical study about the possibilities offered by the new technology. This study will depend on the companies, so the time they need to carry out the study may be variable. Depending on the achieved results the strategy for the exploitation of them will be modified.

DYMSA. They may present new products to the market covering different profiles. Prizes may be reduced. When obtaining better quality of the final product prize may be reduced, their list of customers will be seriously increased.

PLAISA. The state is similar to DYMSA. Anyway, as they work a lot with the postforming, their benefit is lower than for DYMSA.

GREEN NATURE. They dye the wood veneer. They are not directly helped by the new covering technology. Nevertheless, they have achieved a know-how. Besides, the increase of the wood veneer sale field achieved by the new technology is indirectly helpful for them.

ARZAMENDI. The benefit obtained thanks to the new technology may be similar to the case of DYMSA.

BARBERAN. The new process asks the change of the machinery for wrapping. They are directly interested as the sale machinery. The generalization of the new technology would be really interesting for them.

STANLEY COLE. They are specialist in the manufacturing of **doors and** joinery. Their position is like DYMSA.

MERENDA. They will be benefit with any improvement achieved in the wood veneer market. They process wood veneer, so as stronger is the veneer market they will find more customers.

PREMIUM PANELS. Like STANLEY COLE.

JO WAT. They are adhesive manufacturers. Although they are not directly benefit, they are really interested in the know-how and they will offer some special adhesives for the new technology. If they could get a good material, they would sell a lot of product.