



**AMI**

**Melamine**  
*in Laminates*

# MELAMINE IN LAMINATES

## THE CASE

Whether in laminates, wood-based panels, moulding compounds, coatings, flame retardants or paper and textile, melamine is used in different areas of our daily life.

Most of the melamine produced worldwide is used by the wood-based panel industry. The melamine demand is related to activities in the construction, automotive and furniture sectors. The different application areas of laminates have to meet different expectations. This is the reason why a laminate is not a laminate.

## THE CHALLENGE

Melamine is produced for different customers with different needs and for various applications.

There are two types of laminates:

High pressure laminates (HPL)

Low pressure laminates (LPL)

High pressure laminates (HPL) are made of several layers of kraft paper and a surface layer of decorative paper which is treated with melamine formaldehyde or melamine-urea formaldehyde resin. The assembly is pressed together at high pressures (70-100 bar) and high temperatures (140-160°C).

The hard laminate sheets are then glued on a wood substrate using an adhesive. High pressure laminates are preferred where durability, strength and resistance to heat and chemicals are required.

Typical application areas for HPL are:

- Kitchen and bathroom counter-tops
- Heavy-duty furniture tops
- Exterior wall cladding

Photos: are used with courtesy of Fundermax GmbH and Resopal GmbH

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**Low pressure laminates (LPL)** are commonly referred as melamine-faced chipboard or "melamine" for short. Low pressure laminates are manufactured by pressing paper impregnated with melamine resin directly onto a particleboard or fiberboard substrate. No adhesive is needed for this as the resin literally "fuses" the paper onto the board. The manufacturing process works with low pressure (20-30 bar) and high temperature (170-190 °C).

LPL are normally used for:

- Kitchen cabinets
- Laminate flooring
- Self-assembly furniture

If costs are an important factor laminates are normally low pressed.

## THE SOLUTION

AMI Melamine is part of our daily life because it is especially known for:

- Scratch resistance
- Durability
- Heatproof and temperature resistance
- Chemical resistance
- Moisture resistance
- Flame retardant properties
- Good electrical isolation properties
- Antibacterial properties

## THE PRODUCT

AMI Melamine is a white crystalline powder made from urea. It is an organic base with the chemical formula  $C_3H_6N_6$ , with the IUPAC name 1,3,5-triazine-2,4,6-triamine and CAS number: 108-78-1.

AMI Melamine is mostly processed as a resin, a plastic material made out of melamine and formaldehyde by polymerization.

Borealis Agrolinz Melamine GmbH is a leading provider of melamine and innovative, value creating melamine-based solutions.

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