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Lamination film

The process of waste paper recycling often involves mixing used/old paper with water and chemicals to break it down. It's then chopped up and heated, which breaks it down further into strands of cellulose – a type of organic plant material. This resulting mixture is called pulp, or slurry. It's strained through screens, which removes any adhesive or laminate that may still be in the mixture, and is then cleaned, de-inked, bleached and mixed with water. It can be made into new recycled paper.

Adhesives

Our laminating adhesives are water based and totally VOC free. Half (50%) of the adhesive is water, which is evaporated prior to lamination. As water is recyclable, the polymers present in the remaining 50% will not persist in the environment and will biodegrade in time.

There is also a fully compostable and biodegradable version available, which is accredited with EN13432.

Celloglas advocates the use of non-solvent-based laminating adhesive technology whenever possible and promotes the elimination of VOC emissions by the use of either VOC-free adhesives or emission-control technology.

Cellogreen

Made predominantly from cellulose, this laminated product can be recycled as papers and boards. The film is biodegradable and compostable and has been accredited with DIN EN13432, the recognised standard for compost ability and biodegradation.

Bio-based films (PLA films)

This is a new generation of laminating films made from renewable sources such as corn starch or sugar cane. These films grow by photosynthesis and absorb CO2 from the atmosphere. The plants are then converted into polylactic acid (PLA). This PLA is extruded and becomes flexible packaging suitable for lamination. At the end of its life, the PLA is composted into CO2 water and biomass and then the cycle is repeated. PLAs are also available in metallised versions.

Oxo – Biodegradable lamination films

This is a polypropylene-based plastic produced with a salt additive that catalyses the initiation of the composting process once it has been discarded. The film undergoes a two-stage degradation process. After approximately 18 months to two years, the additive initiates the process of oxidation. This results in micro fragmentation and finally biodegradation by naturally occurring micro-organisms.

Metallised polyester (Metpol)

As with all laminated products, the process of de-inking removes the film and metallised material from a paper or board substrate. Then the fiber in the board is recaptured and sold for secondary market pulp.

Varnishing and coatings

UV varnishes also have the following benefits:

- They don't release VOCs into the atmosphere, (as solvent-based coatings do).
- Because they don't require the application of heat for the drying process and are cured through the application of UV light, less energy is used in their application.
- Non-flammable.
- Biodegradable.
- UV varnished sheets can be easily recycled re pulped within normal operating parameters.

Water-based coatings (dispersions) have the following advantages over oil-based products:

- They have minimal VOCs and therefore reduce atmospheric pollution.
- Water based coated materials are recycled in the same way as uncoated materials.
- Water based coatings are formulated from inert raw materials and therefore do not decompose to form environmentally dangerous products.

Foiled sheets

Foiled sheets are recycled in exactly the same way as laminated sheets. What's more, as the 'foiled' area is usually small in relation to the total area of the printed sheet, they present no issues to the repulpers.

CELLOGLAS FINISHES	RECYCLABLE	COMPOSTABLE	NO. VOCS	WATER BASED	ENERGY EFFICIENT	WASTE REDUCTION
Cellogreen lamination films	✓	✓	✓		✓	✓
BOPP lamination films	✓		✓			✓
OXO Bio lamination films	✓	✓	✓			✓
Biodegradable lamination films	✓	✓	✓			✓
Metallised Polyester (Metpol)	✓		✓		✓	✓
Lamination adhesives	✓	✓	✓			✓
UV varnishes	✓	✓	✓		✓	✓
Water-based coatings	✓	✓	✓	✓	✓	✓
Foil blocking foils	✓		✓			✓