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Coated Board For Packaging

Coated board produced from virgin fibre or recycled board, is used for producing high-quality cartons for food packaging. Typical end uses are for cakes and pastry goods, fruits and vegetables, frozen foods, and also for pet food and numerous other products.

In the non-food sector, board is also used for hard and paperback covers, games and pharmaceutical products, cosmetics, and point-of-sale displays.

Converting and printing companies expect the folding board to provide the highest bulk. This is because the strength is heavily dependent on this characteristic, but smoothness and gloss, which determine the quality of the printing surface, are just as important as bulk.

Gloss and smoothness can be achieved through machine calendering. However, with hard or soft calendering the bulk or volume of the sheet is reduced by the nip pressure in the calender.

The challenge is to improve smoothness with additional gloss without losing bulk and stiffness.

Surface Finishing

Brush finishing technology provides a better surface finish, smoothness, gloss, and better stiffness without losing bulk. The DOX Brush Finishing System is normally applied on-line with the board machine. The sheet first passes through a machine calender or soft calender for smoothness and second through the brush finishing unit.

The brush calender system also treats areas of the coated surface that are uneven, preventing any differences in gloss. The brush finishing process,

introduces no variation in thickness of the sheet, gives a uniform smoothness and gloss surface, which are essential for better printing and varnishing.

With the application of a DOX Brush Finishing Unit, a gloss improvement of 30 - 50% is possible in addition to the calendering gloss benefit.

Brush Finishing Operation

DOX Brush Finishing Systems run with web speeds up to 500 m/min and are normally equipped with 2 - 8 brush rolls on each side of the coated paper or board.

The brush rolls, specially designed and manufactured for high-gloss brush finishing, have diameters of 500 - 580 mm and operate at a speed of 800 to 1200 rpm. Operating at these levels requires electro-dynamic balancing of the rolls to guarantee vibration-free operation.

The gloss achieved with area brushing, as opposed to line-contact calendering, is the result of high temperature and friction created between the coated surface of the sheet and the counter-rotating brushes.

Each system incorporates dust removal units to clean dust and contaminants from the polished surface. Their removal protects the very important runability and printability parameters for the printers.

The DOX Air Web Cleaning System is the optimum solution for eliminating dust problems (90 - 95% reduction of sheet dust). Aerodynamic dust removal is achieved by the contact-free, single or double-sided cleaning system without changing surface structure or moisture content. The web cleaning system is widely installed in paper, paperboard and printing machines.