



Application Notes

Moisture Measurement in Medium Density Fiberboard

Moisture is a very important parameter in the manufacture of MDF, moisture content determines the overall strength and durability of the board and surface appearance/quality of the board is governed by moisture distribution. Blows (localized de-lamination) are attributable, in part, to excessive steam build up during the hot press process; core separation can result in some instances. Moisture content of the furnish needs to be optimized in order to save on fuel costs.

MDF Production

Incoming wood species such as pine, poplar and fir, is debarked, chipped, and screened, prior to washing and entering the Digester. Resin, wax, and in some cases urea water, is added to the softened fiber which is flash dried whilst being conveyed pneumatically to a fiber bin. Fiber passes through a grader, and is laid out into a mat which is consolidated at the Forming Pre-Press. The mat finally enters the hot press, where it is converted into a panel through the application of high pressure and temperature.

Measurement Location

Moisture measurements are typically made on the incoming green wood chips, on the refined fiber, and on the Pre Formed mat.

Gauge Installation

Owing to different manufacturing processes, installation locations will differ between plants; the gauge is mountable over a conveyor, over or side on to the mat, approximately 8" above the product. It is also sited looking into a fiber bin or the under- side of a gravity chute through a viewing window. It is advisable to hook the air purge window up to a compressed air line, in order to prevent resin and dust from settling on the viewing window.

Measurement Performance

Measurement Location	Target (% Dry Weight)	Typical Accuracy
Green wood chips (Pre Digester)	45 - 150%	2.0%
Fiber (Exit Refiner)	30 - 55%	0.7%
Fiber(Pre-formed Mat)	0 - 5%	0.1%