

Wood Products

**Application notes**

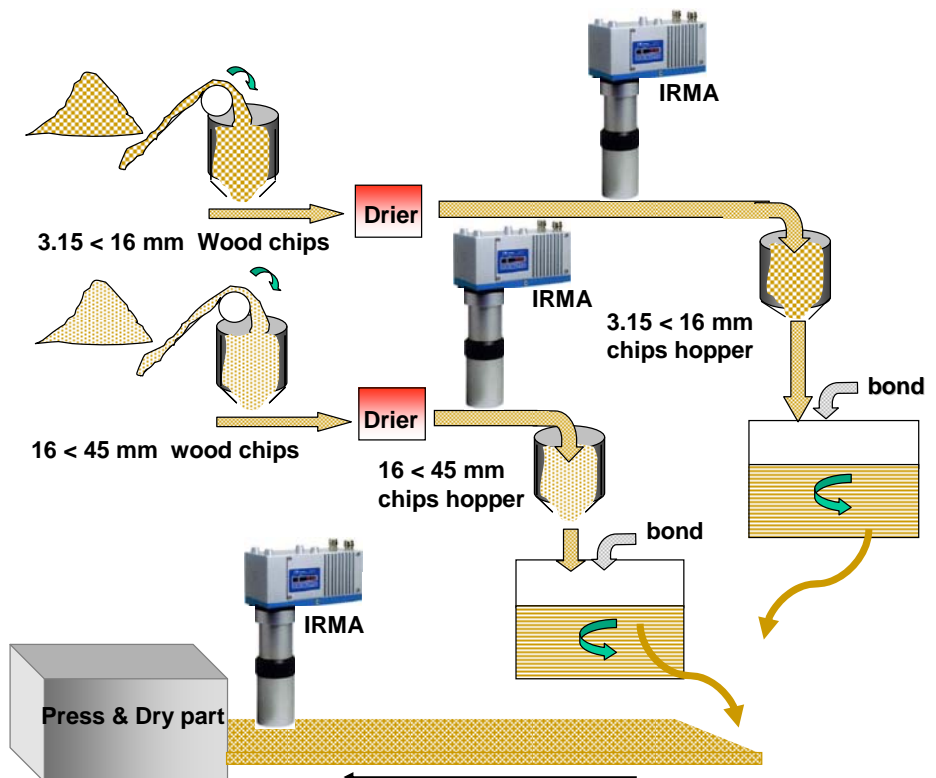
**Moisture in particle board chips**

The CHINO IM series is an on-line multi wavelength liquid analyzer utilizing infrared absorption technology to measure percent water in particle board chips. The standard moisture range of the unit is 2.0% to 12.0% with a 0.2% resolution or 0.0% to 30.0% with a 0.8% resolution.

Fine and coarse chips are mixed with a bonding agent in a stirring tank, respectively, and a particle board is prepared by flowing them into a mold alternately. Since the bonding condition differs according to the moisture being contained in chips, uneven moisture causes uneven bonding strength. Therefore moisture control becomes important.

Signal processing capabilities are built into the compact designed detector unit for easy installation and operation. A maximum of 99 calibration curves can be stored into the detector memory for numerous measurement applications.

The detector can be used by itself or connected to a PC or DCS plant control system. Both analog (4 to 20mA DC) and digital (RS-485 or LAN Ethernet) outputs are provided. A remote setting display unit, which connects up to 9 detector units, can be used to set various detector functions and also displays measured values.



Products / Location	Parameter	Range
Wood chips ( 3.15 to 19mm )	Moisture	7 to 15%
Wood chips ( 16 to 45 mm )	Moisture	7 to 15%

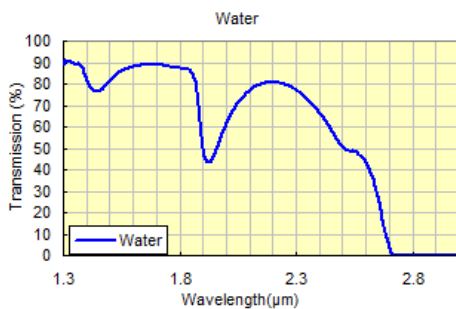
**Recommended model / Item**

- \* General moisture unit  
Model : IRMA1100S Qty : 1
- \* Air purge hood  
Model : IR-WEA Qty : 1
- \* Calibration checker plate  
Model : IR-WEB Qty : 1

**Installation**

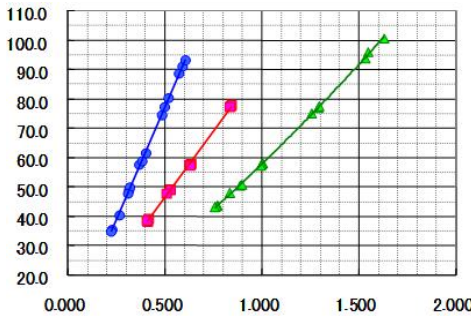
Installation can be made at the locations before each chips mixture is made in order to maintain the best mixture condition, or after molding and before press/dry or after press dry to monitor moisture on the final product.

**Absorption characteristic**



Moisture(water) has a unique infrared absorption spectrum regions. Water absorbs at wavelength of 1.43, 1.94, and 3 micrometers.

**Calibration curve**



Calibration curve is a correlation between moisture determined by customer's reference instrument and IR absorption measured by IRMA.

[Basic sample test for moisture]

1. Prepare samples with various moisture content
  2. Show each sample to IRMA and record absorption level
  3. As conducting step-2, determine moisture level with your reference instrument
  4. Put all data points on a X/Y graph and see if there's a correlation
- Note: Reference instrument may vary depending on the method (by volume or weight).



Mirror type



Fiber type



Liquid cell type



Setting & Display unit



**Contact**

**Chicago Office**

121 S.Wilke Rd, Ste 226, Arlington Heights, IL 60005  
 TEL : (847) 873 - 0378 FAX: (847) 749 - 0148  
 E-mail : [irma@chinoamerica.com](mailto:irma@chinoamerica.com)

**Los Angeles Office**

22301 S. Western Ave, Suite 105, Torrance, CA 90501  
 TEL : (310) 787 - 8899 FAX: (310) 787 - 8898  
 E-mail : [irma@chinoamerica.com](mailto:irma@chinoamerica.com)

\* Download application check sheet at. <http://www.chinoamerica.com/products/meters/checksheet>