Coroplast/Interprofile Product Data

Typical Mechanical Properties

(a) **Edge crush resistance (ECR)** and **flat crush resistance (FCR)**: PP IntePro of straight flute and I-beam rib

Item	Test Method	Unit	2 mm	3 mm	4 mm	5 mm	6 mm	8 mm	10 mm	13 mm	16 mm	19 mm	25 mm
Unit Wt.		g/m^2	490	600	750	1,000	1,400	1,800	2,000	2,500	3,300	4,000	4,800
FCR	TAPPI-825	lb/in^2	190	90	170	170	230	140	140	280	320	410	330
ECR	TAPPI-811, Method A(1)	lb/in	20	40	55	70	100	NB(3)	NB(3)	NB(3)	NB(3)	NB(3)	NB(3)
ECR	TAPPI-811, Method B(2)	lb/in	--	--	--	--	25	55	80	115	300	360	400

(1) The test specimen is 2" in width and 2" in height.
(2) The test specimen is 8" in width and 10" in height.
(3) NB: no bending during the test

(b) **Mullen Burst** (TAPPI-810): no burst up to 1,000 psi for all thickness

Typical Physical Properties

(a) **Thermal Expansion Coefficient** (ASTM D 696):

from -30 to 0°C	6.5×10^{-5} °C^{-1}
from 0 to 30°C	10.5×10^{-5} °C^{-1}
from 30 to 60°C	14.0×10^{-5} °C^{-1}

(b) **Water Absorption** at 24 hours immersion (ASTM D 648): 0.03%

(c) **Melting Temperature** (DSC method): ~ 165°C

(d) **R-Value** at 75°F Mean (ASTM C-177): 0.078 x *l* (thickness of IntePro in mm)

(e) **Water Vapor Transmission Rate (WVTR)** at 23°C (ASTM C 209):

WVTR, $g/(100\ in^2 \times Day) = 1.3 \times 10^{-6} \times (p1 - p2) / l$

Where p1 and p2 are the partial pressures of water vapor in Pascal at the two exposed surfaces of IntePro and *l* is the total thickness in millimeter of the two skin layers

(f) **Sound Transmission Loss** from 400 to 12,800 Hz (SAE J1400):

4mm IntePro, 154 lb/msf	9.6-12.8 dB
10 mm IntePro, 410 lb/msf	13.1-16.3 dB

(g) **Coefficient of Friction, Static** (COF, ASTM D 1894): ~ 0.30 (IntePro in along the flute direction vs. IntePro in the same direction)

Typical Chemical Properties

(a) **FDA Status**: The based resin material of IntePro meets the requirements of the Food and Drug Administration, 21 CFR 177.1520, for a resin that may be processed for use involving contact with food. The status of pigmented or other modified IntePro is available upon request.

(b) **Chemical Resistance**: PP IntePro is resistant to acids, alkalis, salt solutions, solvents, alcohol, water, oil, fat and detergent at room temperature. IntePro is not resistant to aromatic or chlorinated hydrocarbons such as benzene at elevated temperatures and strong oxidizing agents. Information of chemical resistance to specific chemical is available upon inquiry.

(c) **pH value**: PP IntePro is inert and hydrophobic. Therefore, IntePro generally does not affect the pH factor when it is in contact with an aqueous solution.

Recycle/ Safety

(a) PP IntePro is produced from a high impact polypropylene copolymer and is fully recyclable. The resin identification code (RIC) of polypropylene according to Society of the Plastics Industry (SPI) is

(b) If recycling is not possible, disposal to landfills or incineration in accordance with governmental laws and regulations is considered safe.

Special Grades

UltraSmooth IntePro: The surface roughness of 4 mm white IntePro boards were tested by a Hommel T1000 surface roughness tester. The UltraSmooth IntePro improves the surface roughness, Ra value, of regular corrugated PP boards in the industry from about 300 x 10^{-6} to 80 x 10^{-6} inch in the cross flute direction! US Patent #6,759,114 (‘114 patent)

SuperClear IntePro: Regular IntePro of natural color is milky and can not be seen through. SuperClear IntePro substantially enhances the transparency of the IntePro board. SuperClear IntePro of 10 mm thick has a contact clarity of 69% (ASTM D1746, specimen is in contact with the sensor window) as compared to about 25% of regular corrugated PP boards of natural color. SuperClear IntePro tends to be more brittle as compare to regular IntePro, users are strongly recommended to make their own tests and evaluation when converting works, such as cutting, slitting, etc., are necessary.

(a) **Flame Retardant IntePro**: 3 and 4 mm flame retardant IntePro were tested according to ASTM E-84 to have a flame spread of < 25 and smoke developed index of < 450. Therefore, flame retardant IntePro is classified as class A Interior Wall & Ceiling Finish according to National Fire Association Life Safety Code 101, Section 6-5.3.

(b) **Antistatic IntePro**: The surface resistance is 10^9 to 10^{12} ohms /square as measured according to ASTM D 257. IntePro boards of standard colors are available. Special colors may be available upon request.

(c) **Conductive IntePro**: The surface resistance tested according to ASTM D 257 is 10^3 to 10^5 ohms /square. The static decay according to FTM 101C is less than 2 seconds. Only IntePro of black color is available. The conductivity of IntePro is permanent.

(d) **Ultra Outdoor Weather Resistant IntePro**: White polypropylene IntePro of ultra outdoor weather resistance was tested in a weatherometer according to SAE J1960 for 2,500 hours, which corresponds to 1 year in Miami, FL, without brittleness. The outdoor weather resistance relates to the color, temperature, application environment, etc., users are strongly recommended to make their own tests and evaluation. For extended outdoor exposure over one year, it is recommended to use IntePro of polyethylene material.

(e) **White Opaque IntePro**: The light transmission rate of 4 mm white opaque IntePro tested according to ASTM D1746 (specimen is in contact with the sensor window) is only 0.7% as compare to 12.9% of regular white IntePro.

(f) **Volatile Corrosive Inhibiting (VCI) IntePro**: VCI IntePro contains volatile corrosive inhibitor, which can settle on exposed metal in a package, to protect metal from corrosion and extend the storage life. The protection of VCI IntePro relates to the temperature, humidity of the environment, the design of the containers, etc., users are strongly recommended to make their own tests and evaluation to determine feasibility.

Note: Please note that the above information is to the best of our knowledge and is made without guarantee. We can not anticipate all conditions under which this information and our product, or the products of other manufactures in combination with our products may be used. Users are advised to make their own test and evaluation to determine the safety and suitability for their own purposes. We accept no responsibility for results obtained by the application of the information or the safety and suitability of our products.