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General Specifications of Polypropylene co-polymer resin

Technical Bulletin - CSS-001

Density, g/cc ASTM-D782A-2	0.90
Notched Izod Impact (FT-lbs/in.) ASTM-D256-A @ 70 degrees F	3.0
Tensile Strength at Yield (psi units) ASTM-D638 2in/min.	4000
Elongation at yield (%)	10
Deflection Temp. degrees F 66psi	194
Water Absorption - 24 hrs, % ASTM-D570	0.02
Falling Weight Impact Strength @ -29degree F (ft.lbs.)	23

Coefficient of Linear Thermal Expansion	-30 degrees C to 0 degrees C	12
	0 degrees C to 30 degrees C	14
(MM/MM/C x [10 to the -5th])	30 degrees C to 60 degrees C	21

Normal temperature performance range	-17 degrees F to 160 degrees F
Melting point	162 degrees C, 324 degrees F

All information has been supplied by resin manufacturers -- Coroplast provides this data as a service and makes no warranty of information beyond our control.

General Specifications -- Explanation of Terms

1. **Density, g/cc, ASTM-D782A:** This test determines the material weight in grams per cubic centimeter, which means 1 cubic centimeter of our polypropylene resin would have an average weight of .9 grams.
2. **Notched Izod Impact, FT-lbs./in., ASTM-D256-A:** This test determines the force used to break a sample of our polypropylene using a pendulum type hammer which is dropped from a standardized distance. A notch is milled into the sample to concentrate stress to that point which promotes a brittle fracture. The tests are reported in terms of energy absorbed per unit of sample width.
3. **Tensile Strength at Yield, lbs./sq.in., ASTM-D638:** This test determines force taken to break/ tear a polypropylene sample at a speed rat of 2 inches/minute and percentage of elongation at time of yield or break. It took 4000 lbs./sq.in. of force with 10% elongation at time of yield or break.
4. **Deflection Temperature, in Degrees, ASTM-D648:** This test determines at what temperature a polypropylene sample exhibits deformation with a specified force applied to the sample bridged across a test apparatus. The test uses a 66 psi load and a 264 psi load and determines deflection temperature at which point that the sample deforms .010 inch.
5. **Water Absorption, % in 24 hrs, ASTM-D570:** This test determines the relative rate of absorption of water by plastics when submersed for a 24 hour period. Samples are preconditioned (dried) before the test. The moisture content is very intimately related to such properties as electrical insulation resistance, dielectric losses, mechanical strength, appearance and dimensions.
6. **Coefficient of Linear Thermal Expansion, (10 to the -5th) in./in./ degrees F, ASTM-D696:** This test measures the change in length of a specimen under controlled conditions within a specified range of temperatures. The temp. ranges given were use and a calculation done to determine the coefficient linear thermal expansion by multiplying the coefficient times 10 to the -5th, times the length of the sample (in.), times the difference in temp. change in Celsius. **Example: A sample 144" long @ 54 degrees F differential would be calculated as follows: Coefficient = 6.9, thus: (10 to the -5th in./in./degree F) = (6.9 x [10 to the -5th] x 144" x 54 degrees F) = .000069 x 144" x 54 degrees F= .5365"/144"/54 degrees F,** thus, a sheet will expand approximately 1/2' in 144' with 54 deg. F range, (32 deg.F to 86 deg.F).

For additional Technical information contact Coroplast.