



Technical Data Sheet

Hydropol™ 33104P

Pellet Specification

Description

Hydropol™ 33104P is a modified co-polymer based on vinyl acetate hydrolysed monomers. Hydropol™ 33104P has been specifically formulated for blown film.

Properties

Particle Size 4-5 mm
Bulk Density 680-780 kg/m³
Physical Density 1100-1250kg/m³
Peak Melting Temperature 200°C
Melt Flow Rate 3-7g 230°C and 10kg

Non-Toxic

Hydropol™ 33104P is non - toxic and all raw materials are listed as approved as direct food additives and food contact by EU and US regulatory listings.

Barrier Properties

Hydropol™ 33104P has high resistance to animal, mineral and vegetable oils, aliphatic and aromatic hydrocarbons, ethers, esters and ketones. They also offer excellent barriers to Oxygen.

Biodegradable

Hydropol™ 33104P is inherently biodegradable. Biodegradation has been observed by at least 20 different genera of bacteria and several yeasts and moulds which occur in activated sludge, compost, facultative ponds, landfills, anaerobic digesters and septic systems and in natural soil and aquatic environments. Sturm (aquatic) biodegradation tests show that the formulations degrade in the presence of activated sewage sludge at a similar rate to cellulose. Hydropol™ 33104P has shown no ecotoxicological effect in Marine environments according to ASTM D6691. Testing for Composability and Anaerobic Digestion is ongoing.

Anti-Static

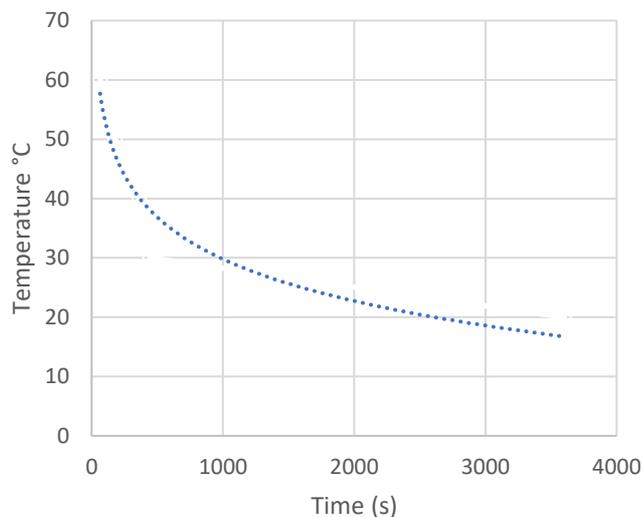
Because of their high hydroxyl group content and hygroscopicity, Hydropol™ compounds are inherently static dissipative, similar to cellophane, and cause little frictional static charging. Surface resistivities are in the range of 105–106 ohms/m².

Indicative Properties

Solubility

Each grade of Hydropol™ is engineered to solubilise at the maximum temperature for the right application. For example, our medium Hydrolysis variant designed for extrusion coating will more readily dissolve at lower temperatures to ensure 100% solubility when combined with tougher substrates.

Solubility of Time vs Temperature



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Mechanical Properties*

*Indicative results only and can vary with storage conditions of film the following tests were carried out at 25°C and 50% RH unless stated

	Unit				Method	
Tensile Strength on 25µm film	60-80 N	Stress at Maximum MD	60-80 N	Stress at Maximum CD	ISO 537	
Tear Strength (Elmendorf)	50-70 %	Elongation at Break MD	50-70 %	Elongation at Break CD		
Dart puncture	5000 - 7500 mN	MD	>8000 mN	CD	ISO 6383-2	
Coefficient of Friction	g		90		ASTM 1709	
		Static	0.58 µ - 0.87 µ	Dynamic	0.55µ- 0.74µ	ASTM D1894

Barrier Properties**

Testing on this grade has not been completed

	Unit		Method
Kit	1-12	TBC	Tappi T559

All data shown is indicative only. MD = Machine Direction CD = Cross Direction

Storage and Shelf-life

Hydropol pellets have a minimum shelf life of one year if kept in cool, dry conditions with controlled humidity. Packaging should be resealed after opening to protect against moisture.

