Technical Specification

KCL Formi® Pro PPH

Material KCL Formi is cellulose fibre reinforced plastic composite with high renewable material content. It is specially designed for injection moulding applications. Principal ingredients are specially selected cellulose fibres and virgin polypropylene. Cellulose fibres significantly increase stiffness and strength of polypropylene.

Applications Environmentally sound KCL Formi composite can be used in injection moulding applications instead of polypropylene, filled polypropylene or several other plastics.

Environment KCL Formi is manufactured from renewable cellulose fibers which reduce usage of oil based plastics. Material is fully recyclable or can be burned for energy. All cellulose fibres are from sustainably managed forests.

Physical and mechanical properties

Property	Test method	PPH30	PPH40	PPH50
Density, g/cm^3	ISO 1183	1.03	1.08	1.13
Tensile strength, 50mm/min, N/mm^2	ISO 527-2	55	62	66
Tensile modulus, 1mm/min, N/mm^2	ISO 527-2	3500	4600	5500
Elongation at break, 50mm/min, %	ISO 527-2	6	4.5	3.5
Charpy impact strength, notched +23 ºC , kJ/m^2	ISO 179-2/1eA	5.5	6	7
Charpy impact strength, unnotched +23 ºC , kJ/m^2	ISO 179-2/1eU	35	36	37
Cellulose content, weight %		30	40	50

Pretreatment KCL Formi contains cellulose fibres which may absorb moisture if the package is open. Close the package at all times when possible. KCL Formi composite should be dried for minimum of 3 hours at 115 ºC (dehumidifying dryer preferred).

Injection moulding KCL Formi does not need special equipment for processing. Recommended processing parameters for typical injection moulding machine are:

Temperature profile from nozzle	195/190/185/180 ºC
Injection pressure	<1200 bar
Mould temperature	+60 - +80
Injection speed	As high as possible

Safety Maximum recommended processing temperature is 200 ºC. Overheating may cause risk for thermal degradation.

Storage KCL Formi granulates should be protected from UV-light and stored in closed packages in dry conditions at temperature below 50 ºC. Air humidity can increase moisture content of the material and have negative effects on the end product properties.