Ketron® Sterra™ HPV PEEK

Poly-ether-ether-ketone

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Ketron® Sterra™ HPV Polyetheretherketone PEEK shapes are carbon fiber reinforced, with graphite and PTFE lubricants, giving them the lowest coefficient of friction and the best machinability of all PEEK materials. Due to Ketron® Sterra™ HPV PEEK's combination of low wear and friction, and high LPV, this grade is often chosen as a solution for service bearings, bushings, insulators, valves, and seals.
As part of the Sterra™ product portfolio, this material contains recycled content and exhibits a significantly lower carbon footprint compared to similar materials derived from virgin feedstocks.

	Recycled Content (post-industrial material)	70%

ENVIRONMENTAL PRODUCT DATA SHEET

		Ketron® Sterra™ HPV PEEK		Comparison with a generic material based on 100% virgin resin	
		Units	Indicative Values	Units	Indicative Values
Life Cycle Impact Assessment Results	Climate change	kg CO_2eq / kg product	6.76	kg CO_2eq / kg product	20.54
	Acidification	Mole of H^+ eq. / kg product	0.012	Mole of H^+ eq. / kg product	0.054
	Ecotoxicity freshwater	CTUe / kg product	27.23	CTUe / kg product	131.08
	Particulate Matter	Disease inc. / kg product	9.79E-08	Disease inc. / kg product	4.54E-07
	Human toxicity, non-cancer - total	CTUh / kg product	5.40E-08	CTUh / kg product	2.06E-07
	Resource use, fossils	MJ / kg product	97.18	MJ / kg product	380.56
	Resource use, mineral and metals	kg Sb eq. / kg product	1.64E-04	kg Sb eq. / kg product	1.68E-04
	Water use	m^3 world equiv. / kg product	0.21	m^3 world equiv. / kg product	1.24
	Environmental footprint, EF v3.0	eco points / kg product	5.78E-04	eco points / kg product	1.53E-03

More aggregated LCA endpoints are available on request.

Fundamentals

Life cycle assessment was calculated according to ISO 14040/44 (ISO, 2006; ISO/TC, 2006) using a mix of primary and secondary data including the Sphera MLC database version 2022.1. The analysis was performed with Sphera LCA for Experts Software (former GaBi 10.6). The total environmental footprint was calculated with the EFv3.0 method and the carbon footprint was calculated with the IPCC 2013 method. In accordance with the life cycle assessment approach, all processes within the cradle-to-gate system boundary were considered, 1 wt. % cut-off rule and no allocation were applied. The further processing, the use phase and the end-of-life phase of the material products are excluded from the system boundary. The LCA has undergone a critical review by an independent third party according to ISO 14040/44.
Value(s) indicated are global average(s) and may be based on a varying number of manufacturing locations, including single location based only.

Miscellaneous

Mitsubishi Chemical Group's production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015.
Production sites are using electricity from Renewable Sources (RE).

MITSUBISHI CHEMICAL GROUP