

	LCIA Method: IMPACT 2002+ Normalisation: N/A								Database: Ecolnvent Tool: SimaPro								Source Material Ranking															
Relative IC-Level Impacts	Carcinogens		Non-carcinogens		Respiratory inorganics		Ionizing radiation		Ozone layer depletion		Respiratory organics		Aquatic ecotoxicity		Terrestrial ecotoxicity		Fertiliser acid/mulch		Land occupation		Aquatic acidification		Aquatic eutrophication		Global warming		Non-renewable energy		Mineral extraction			
Aluminium	8.6%	12.5%	14.3%	5.4%	17.2%	2.4%	15.7%	8.6%	16.1%	1.9%	14.4%	10.6%	13.1%	10.2%	6.3%	5	3	4	6	8	18	4	4	6	5	5	6	2	6	3		
Brass	18.8%	73.8%	41.2%	6.6%	9.3%	24.7%	75.2%	77.7%	47.4%	5.1%	73.4%	73.0%	2.7%	2.8%	74.8%	3	2	3	4	9	6	3	2	3	4	3	4	12	18	2		
Copper	25.6%	100.0%	57.0%	4.5%	9.2%	35.5%	100.0%	100.0%	64.4%	6.3%	100.0%	100.0%	3.2%	2.9%	100.0%	2	1	2	9	10	4	1	1	2	3	1	1	11	17	1		
Steel	4.0%	1.0%	1.9%	1.6%	4.0%	6.2%	2.0%	2.2%	0.0%	0.5%	0.0%	2.3%	0.0%	0.0%	1.6%	9	9	14	15	15	14	11	9	20	14	20	16	20	20	5		
Cotton	0.0%	2.1%	6.2%	2.0%	8.5%	0.0%	7.4%	6.0%	33.9%	100.0%	12.0%	77.5%	2.5%	1.1%	0.3%	20	5	6	14	11	20	6	5	4	1	6	3	13	19	11		
Silicon	0.7%	0.3%	1.2%	4.7%	73.9%	3.1%	0.9%	0.8%	1.1%	0.8%	1.0%	2.5%	1.2%	3.0%	0.4%	19	16	16	7	2	17	16	15	15	9	15	15	16	16	9		
CFRP	100.0%	12.4%	100.0%	100.0%	100.0%	100.0%	81.4%	49.3%	100.0%	16.1%	91.2%	89.5%	100.0%	100.0%	1.8%	1	4	1	1	1	1	2	3	1	2	2	2	1	1	4		
GFRP	1.5%	0.3%	3.5%	3.9%	5.9%	12.5%	2.8%	0.9%	5.8%	0.6%	5.1%	3.2%	8.0%	11.0%	0.1%	16	15	8	10	13	9	7	14	8	10	8	13	4	4	16		
Epoxy	3.5%	0.8%	3.3%	5.8%	28.8%	23.0%	2.5%	2.2%	2.8%	0.9%	2.4%	10.3%	3.5%	7.4%	0.5%	11	10	9	5	6	7	9	10	13	7	13	8	10	9	8		
Latex	16.8%	0.0%	0.8%	0.0%	0.0%	6.9%	0.7%	0.0%	2.5%	0.0%	0.9%	6.1%	0.0%	0.9%	6.1%	0.0%	4	20	19	20	20	13	17	19	14	20	14	20	17	12	20	
DMA	2.7%	0.3%	0.0%	2.5%	17.2%	3.4%	0.5%	0.5%	0.4%	0.2%	0.1%	3.1%	0.3%	4.8%	0.2%	13	14	20	12	7	16	18	16	19	15	19	14	19	14	14		
PA	1.4%	0.0%	2.0%	0.0%	0.1%	12.2%	1.0%	0.0%	5.7%	0.0%	4.5%	9.8%	6.8%	10.5%	0.0%	17	19	13	19	19	10	15	20	9	19	10	9	6	5	18		
PBDE	5.8%	1.8%	11.9%	10.1%	73.1%	17.9%	9.0%	5.1%	24.0%	1.5%	15.9%	13.9%	12.7%	14.6%	0.8%	8	6	5	2	3	8	5	6	5	6	4	5	3	2	6		
PC	7.2%	0.1%	3.1%	0.1%	0.4%	11.7%	0.0%	0.5%	4.2%	0.1%	3.6%	2.2%	6.4%	7.9%	0.0%	6	18	10	18	18	12	20	17	11	17	11	17	7	8	19		
PET	1.9%	0.4%	1.0%	2.2%	5.5%	5.7%	1.1%	1.3%	0.8%	0.5%	0.8%	1.9%	1.3%	5.0%	0.3%	14	13	18	13	14	15	14	13	16	13	17	19	15	13	13		
PF	3.9%	0.5%	1.6%	4.5%	7.3%	29.6%	1.4%	1.4%	0.8%	0.6%	0.9%	7.7%	1.4%	6.5%	0.3%	10	12	15	8	12	5	13	12	17	11	16	10	14	11	12		
PMMA	1.3%	1.3%	3.1%	0.1%	0.5%	54.2%	2.1%	2.5%	6.5%	0.0%	6.9%	5.3%	7.3%	11.3%	0.0%	18	8	11	17	17	2	10	7	7	18	7	12	5	3	17		
PU Flexible Foam	6.9%	0.2%	2.3%	0.6%	0.8%	11.9%	0.2%	0.4%	3.3%	0.1%	2.9%	6.9%	3.6%	7.4%	0.1%	7	17	12	16	16	11	19	18	12	16	12	11	9	10	15		
PU Rigid Foam	3.0%	1.7%	4.1%	9.2%	33.1%	38.9%	2.6%	2.3%	5.6%	0.9%	4.6%	10.6%	4.0%	9.2%	0.6%	12	7	7	3	5	3	8	8	10	8	9	7	8	7	7		
PVC	1.7%	0.5%	1.1%	2.6%	43.9%	1.7%	1.6%	1.6%	0.6%	0.5%	0.5%	1.9%	0.8%	3.4%	0.3%	15	11	17	11	4	19	12	11	18	12	18	18	18	15	10		
Criteria Weights:	11.68	11.68	11.68	5.32	12.53	11.68	11.52	11.52	12.73	5.79	12.73	2.42	14.63	7.30	9.08	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667	6.667		

Composite Material Constitution	
Epoxy Adhesive	82% ER, 18% DMA
NOMEX HC	50.6% PA, 49.4% PF
Synthetic Leather	19.8% Cotton, 35.7% PC, 39.7% PU-FF, 4.8% PBDE

Inventory- Based Adjustment	Human Health: Cancrigenic						Human Health: Non-cancrigenic						Human Health: Respiratory inorganics						Ionizing radiation						Ozone Depletion						Human Health: Respiratory organics						Aquatic ecotoxicity																										
	Seats			Linings		Bins	Floor		Seats			Linings		Bins	Floor		Seats			Linings		Bins	Floor		Seats			Linings		Bins	Floor		Seats			Linings		Bins	Floor																								
	I. Metallic Structure	II. Composite Structure	III. Comfort Interfaces	IV. Misc.	V. Sidewall Panel	VI. Insulation Blankets	VII. Overhead bins	VIII. Carpet	IX. Floor Panel	I. Metallic Structure	II. Composite Structure	III. Comfort Interfaces	IV. Misc.	V. Sidewall Panel	VI. Insulation Blankets	VII. Overhead bins	VIII. Carpet	IX. Floor Panel	I. Metallic Structure	II. Composite Structure	III. Comfort Interfaces	IV. Misc.	V. Sidewall Panel	VI. Insulation Blankets	VII. Overhead bins	VIII. Carpet	IX. Floor Panel	I. Metallic Structure	II. Composite Structure	III. Comfort Interfaces	IV. Misc.	V. Sidewall Panel	VI. Insulation Blankets	VII. Overhead bins	VIII. Carpet	IX. Floor Panel	I. Metallic Structure	II. Composite Structure	III. Comfort Interfaces	IV. Misc.	V. Sidewall Panel	VI. Insulation Blankets	VII. Overhead bins	VIII. Carpet	IX. Floor Panel																		
Aluminium	83.58		23.63	2.54				32.15	15.86	122.35	34.59	3.72			47.06		23.21	139.34	39.39	4.24			53.59		26.44	52.93	14.96	1.61		20.36	10.04	167.75		47.43	5.10			64.52	31.83	23.27	6.58	0.71		153.30	43.34	4.66		58.96	29.09														
Brass	3.39			5.76						13.29		22.60						7.42		12.61						1.18		2.01				1.68		2.85			4.45		7.56			13.53		23.00																			
Cu wiring				0.31								1.20								0.68								0.05					0.11			0.43				1.20																							
Stainless Steel			12.33	13.27							3.07	3.30							6.02	6.48							4.82	5.19					12.42	13.37				19.06	20.52			6.05	6.51																				
Cotton															0.74																0.69					2.99									2.60																		
Synth. Leather			56.34								6.31							38.45									11.52						57.23					98.62			19.81																						
Silicone Rubber				0.02	0.02						0.01	0.01						0.03	0.04								0.11	0.15					1.77	2.42		0.07	0.10		0.02	0.03																							
CFRP	656.40									81.31								656.40															656.40						534.14			3.58	23.64	5.16																			
GFRP					1.89	12.52	2.73				0.38	2.52	0.55					4.58	30.27	6.61							5.10	33.71	7.35			7.65	50.60	11.04		16.25	107.41	23.44																									
Epoxy Adhesive									0.05																													0.27							0.03																		
Latex								11.75																												4.85								0.46																			
NOMEX HC					1.16		1.68				0.12		0.17					0.78	1.12								0.98		1.42		0.02			1.59	2.30				9.06		13.07		21.27		0.19	1.51	0.45		0.53	0.77	1.83												
PA	0.26	2.05	0.61					2.49			0.01	0.07	0.02				0.36	2.90	0.86								0.02	0.01				0.01	0.11	0.03		2.19	17.50	5.18																									
PC		96.21	0.17								1.36	0.00					40.59	0.07										0.87	0.00				5.65	0.01				155.90	0.28																								
PEI					5.35						0.08						2.26											0.05					0.31				8.66																										
PET Film		1.73	1.32		0.37			1.34			0.36	0.28		0.08	0.08	0.28		0.94	0.72		0.20		0.73				2.01	1.54				4.93	3.78		5.10	3.91		1.09		3.97		1.01	0.77		0.22		0.78																
PMMA					0.80						0.80						1.81	0.20		0.73							0.05		0.43		1.56			0.30	1.06		3.84																										
PU Flexible Foam		101.33									3.04						34.20											9.12					12.05				175.84			2.24																							
PU Rigid Foam		12.87	0.39								7.61	0.23					17.95	0.54										40.16	1.22				143.89	4.37		169.08	5.13		11.33	0.34																							
PVC Film			0.16	0.06	0.68		0.98				0.04	0.02	0.19		0.28		0.10	0.04	0.43		0.62							0.23	0.09	1.02		1.47			17.27	0.16	0.06	0.68		0.98				0.90																			
Total Score	87.0	656.7	306.6	24.4	9.9	12.9	37.5	15.6	15.9	135.6	81.3	56.4	31.4	1.6	2.6	48.1	1.1	23.2	146.8	656.8	180.5	26.3	9.9	30.5	61.9	7.0	26.5	54.1	656.4	83.7	11.8	7.3	34.1	30.6	2.3	10.1	169.4	656.4	287.7	33.0	29.6	51.7	102.8	7.0	32.2	27.7	658.6	647.8	43.9	67.0	108.5	46.4	30.1	4.7	166.8	534.3	64.8	23.9	65.8	5.7	29.1		
% Score	7.5%	56.3%	26.3%	2.1%	0.8%	1.1%	3.2%	1.3%	1.4%	35.6%	21.3%	14.8%	8.2%	0.4%	0.7%	12.6%	0.3%	6.1%	12.8%	57.3%	15.8%	2.3%	0.9%	2.7%	5.4%	0.6%	2.3%	6.1%	73.7%	9.4%	1.3%	0.8%	3.8%	3.4%	0.3%	1.1%	12.4%	47.9%	21.0%	2.4%	2.2%	3.8%	7.5%	0.5%	2.4%	1.7%	40.3%	39.6%	2.7%	4.1%	6.6%	2.8%	1.8%	0.3%	17.5%	56.0%	9.0%	3.9%	0.6%	2.5%	6.9%	0.6%	3.1%
Rank	3	1	2	5	9	8	4	7	6	1	2	3	5	8	7	4	9	6	3	1	2	7	8	5	4	9	6	3	1	2	6	8	4	5	9	7	8	1	2	6	4	3	5	7	9	2	1	3	5	8	7	4	9										

