

	Method: CML-IA non-baseline Normalisation: EU25+3, 2000										Database: EcolInvent Tool: SimaPro			Source Material Ranking													
Relative IC-Level Impacts	Abiotic depletion - elements	Land competition	Global warming	Ozone layer depletion	Freshwater Ecotoxicity	Marine Ecotoxicity	Terrestrial Toxicity	Human Toxicity	Photochemical oxidation	Acidification (acid not incl.)	Eutrophication (incl. lake)	Ionizing radiation	Metalorous air	Abiotic depletion - elements	Land competition	Global warming	Ozone layer depletion	Freshwater Ecotoxicity	Marine Ecotoxicity	Terrestrial Toxicity	Human Toxicity	Photochemical oxidation	Acidification (lake not incl.)	Eutrophication (incl. lake)	Ionizing radiation	Metalorous air	
Aluminium	0.4%	5.8%	13.2%	19.2%	4.0%	7.5%	0.4%	2.6%	10.9%	14.4%	16.1%	5.4%	15.2%	8	6	2	7	4	4	7	8	10	5	6	6	11	
Brass	100.0%	14.0%	3.2%	9.8%	71.6%	72.9%	3.2%	71.3%	70.5%	73.4%	37.1%	6.6%	17.8%	1	3	13	11	2	2	4	2	4	3	4	4	10	
Copper	20.8%	17.3%	3.8%	10.6%	100.0%	100.0%	4.3%	100.0%	98.8%	100.0%	49.4%	4.5%	22.4%	2	2	11	10	1	1	2	1	2	1	3	9	8	
Steel	0.7%	1.6%	0.0%	6.0%	1.0%	1.0%	0.6%	2.7%	4.7%	0.0%	0.0%	1.6%	6.0%	6	14	20	13	6	8	5	7	18	20	15	15		
Cotton	0.4%	2.4%	4.2%	8.7%	1.6%	0.5%	100.0%	0.6%	0.0%	12.0%	53.9%	2.0%	12.6%	9	11	10	12	5	11	1	10	20	6	2	14	13	
Silicon	0.2%	6.0%	1.4%	18.3%	0.4%	1.2%	0.1%	0.4%	6.5%	1.0%	1.0%	4.7%	27.7%	14	5	16	8	11	7	13	13	14	15	15	7	7	
CFRP	1.6%	100.0%	100.0%	88.6%	8.8%	20.1%	3.5%	7.5%	100.0%	91.2%	100.0%	100.0%	100.0%	3	1	1	2	3	3	3	3	1	2	1	1	1	
GFRP	0.2%	4.8%	8.6%	5.5%	0.1%	0.3%	0.0%	0.2%	9.7%	5.1%	5.7%	3.9%	7.5%	15	8	5	15	16	16	18	15	11	8	9	10	14	
Epoxy	0.6%	4.4%	3.8%	44.6%	0.7%	0.9%	0.1%	2.9%	33.7%	2.4%	2.9%	5.8%	42.0%	7	9	12	5	9	10	11	6	6	13	13	5	3	
Latex	0.0%	0.0%	1.0%	0.0%	0.0%	0.2%	0.3%	0.0%	2.9%	1.5%	2.8%	0.0%	0.1%	20	20	17	20	18	18	10	20	19	14	14	20	19	
DMA	0.3%	1.2%	0.6%	21.3%	0.2%	0.2%	0.0%	0.4%	16.1%	0.1%	0.7%	2.5%	29.6%	13	15	19	6	15	17	17	14	9	19	17	12	6	
PA	0.0%	0.0%	8.3%	0.3%	0.0%	0.0%	0.0%	0.1%	6.3%	4.5%	6.1%	0.0%	0.0%	18	19	7	19	19	19	20	18	15	10	8	19	20	
PBDE	1.3%	7.5%	12.7%	100.0%	1.0%	1.9%	0.3%	7.1%	20.6%	15.9%	26.8%	10.1%	91.3%	4	4	3	1	7	5	9	4	7	4	5	2	2	
PC	0.0%	0.1%	8.6%	0.6%	0.0%	0.0%	0.5%	0.1%	5.6%	3.6%	4.1%	0.1%	0.8%	19	18	6	18	20	20	6	19	17	11	11	18	17	
PET	0.4%	2.2%	1.6%	5.6%	0.3%	0.4%	0.1%	0.5%	7.2%	0.8%	0.8%	2.2%	19.6%	11	12	15	14	13	14	16	11	12	17	16	13	9	
PF	0.3%	2.9%	1.9%	11.4%	0.4%	0.5%	0.1%	4.0%	38.2%	0.9%	0.7%	4.6%	37.6%	12	10	14	9	10	12	14	5	5	16	18	8	4	
PMMA	0.1%	0.1%	8.9%	2.0%	0.1%	0.4%	0.0%	0.1%	18.7%	6.9%	5.6%	0.1%	2.8%	17	17	4	16	17	15	19	17	8	7	10	17	16	
PU Flexible Foam	0.2%	0.6%	4.6%	1.0%	0.3%	1.0%	0.1%	0.2%	6.0%	2.9%	3.4%	0.6%	0.8%	16	16	9	17	14	9	12	16	16	12	12	16	18	
PU Rigid Foam	0.7%	5.0%	5.6%	48.5%	0.8%	1.4%	0.4%	1.3%	95.0%	4.6%	6.3%	9.3%	13.3%	5	7	8	4	8	6	8	9	3	9	7	3	12	
PVC	0.4%	2.1%	0.9%	70.0%	0.3%	0.5%	0.1%	0.5%	6.9%	0.5%	0.6%	2.6%	33.4%	10	13	18	3	12	13	15	12	13	18	19	11	5	
Criteria Weights:	9.08	5.79	14.63	12.53	11.52	11.52	11.52	11.68	10.87	12.73	2.42	5.32	11.68	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	7.692	

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	Depletion of Minerals & Metals								Land Use								Global Warming / Climate Change								Ozone Depletion								Freshwater ecotoxicity								Marine ecotoxicity													
	Seats				Linings		Bins		Floor		ix. Floor Panel		Seats				Linings		Bins		Floor		ix. Floor Panel		Seats				Linings		Bins		Floor		ix. Floor Panel		Seats				Linings		Bins		Floor		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	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	4.08		1.15	0.12			1.57	0.77		57.04		16.12	1.74			21.94	10.82		128.82		36.42	3.92			49.55		24.44	187.41		52.98	5.70			72.08		35.56	39.13		11.06	1.19		15.05		7.43	73.54		20.79	2.24		28.28	13.95			
Brass	18.00			30.60						2.53		4.29							0.57			0.97						1.76		2.99						12.88		21.90					22.32											
Cu wiring				0.25								0.21										0.05								0.13								1.20				1.20												
Stainless Steel			2.03	2.19								4.99	5.38																	18.51	19.93							3.17	3.42			3.22	3.47											
Cotton								0.14								0.85										1.47								3.03						0.55							0.19							
Synth. Leather			2.15									11.11										63.98								71.97								4.65					6.16											
Silicone Rubber				0.00	0.01							0.14	0.20									0.03	0.05								0.44	0.60						0.01	0.01				0.03	0.04										
CFRP		10.70									656.40																			581.90								58.02						132.04										
GFRP					0.23	1.53	0.33					6.21	41.08	8.96									11.21	74.12	16.17								7.18	47.44	10.35					0.19	1.24	0.27			0.41	2.74	0.60							
Epoxy Adhesive								0.01									0.05																		0.57							0.01						0.01						
Latex																										0.71																						0.13						
NOMEX HC						0.08		0.11					0.62		0.89								2.24	3.24								2.53		3.64					0.09		0.14				0.17									
PA	0.01		0.07	0.02				0.09			0.00	0.02	0.00				0.02				1.50	12.01	3.55							0.05	0.43	0.13			0.52			0.00	0.01	0.00			0.01			0.01			0.07					
PC			0.36	0.00								1.29	0.00											114.35	0.21							7.94	0.01																					
PEI					0.02									0.07		0.43								6.35									0.44																					
PET Film			0.33	0.26		0.07		0.26				1.99	1.53											0.31		1.13					5.05	3.87			1.08	3.93			0.27	0.21		0.06		0.21			0.38	0.29		0.08		0.30		
PMMA					0.07									0.06										5.29									1.19		1.08				0.05					0.25										
PU Flexible Foam			2.33									8.35																			15.33																							
PU Rigid Foam			3.11	0.09								21.79	0.66																		211.03	6.40																						
PVC Film			0.03	0.01	0.15		0.22					0.19	0.08	0.83		1.20							0.08	0.03	0.36		0.52				6.30	2.52	27.51		39.68																			
Total Score	22.1	10.7	11.6	33.6	0.6	1.6	2.2	0.5	0.8	59.6	656.4	65.9	14.0	8.0	41.5	33.0	2.4	10.9	129.4	657.9	320.9	10.6	25.5	74.4	69.5	17.9	24.5	189.2	581.9	389.5	42.1	39.4	48.5	125.8	7.5	36.1	52.0	58.0	26.5	28.0	0.5	1.3	15.7	0.8	7.4	86.7	132.1	51.9	29.8	1.0	2.8	29.3	0.7	14.0
% Score	26.4%	12.8%	13.8%	40.2%	0.7%	1.9%	2.7%	0.6%	0.9%	6.7%	73.6%	7.4%	1.6%	0.9%	4.7%	3.7%	0.3%	1.2%	9.7%	49.4%	24.1%	0.8%	1.9%	5.6%	5.2%	1.3%	1.8%	13.0%	39.9%	26.7%	2.9%	2.7%	3.3%	8.6%	0.5%	2.5%	27.4%	30.5%	13.9%	14.7%	0.2%	0.7%	8.2%	0.4%	3.9%	24.9%	37.9%	14.9%	8.5%	0.3%	0.8%	8.4%	0.2%	4.0%
Rank	2	4	3	1	8	6	5	9	7	3	1	2	6	8	4	5	9	7	3	1	2	9	6	4	5	8	7	3	1	2	6	7	5	4	9	8	2	1	4	3	9	7	5	8	6	2	1	3	4	8	7	5	9	6

Terrestrial ecotoxicity						Human Health: Toxicity						Human health: Ozone formation						Acidification						Eutrophication						Ionizing radiation						Human Health: Malodorous Air																										
Seats		Linings		Bins	Floor		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	ix. Floor Panel	i. Metallic Structure	ii. Composite Structure	iii. Comfort Interfaces	iv. Misc.	v. Sidewall Panel	vi. Insulation Blankets	vii. Overhead bins	ix. Floor Panel	i. Metallic Structure	ii. Composite Structure	iii. Comfort Interfaces	iv. Misc.	v. Sidewall Panel	vi. Insulation Blankets	vii. Overhead bins	ix. Floor Panel	i. Metallic Structure	ii. Composite Structure	iii. Comfort Interfaces	iv. Misc.	v. Sidewall Panel	vi. Insulation Blankets	vii. Overhead bins	ix. Floor Panel	i. Metallic Structure	ii. Composite Structure	iii. Comfort Interfaces	iv. Misc.	v. Sidewall Panel	vi. Insulation Blankets	vii. Overhead bins	ix. Floor Panel																							
4.02	1.14	0.12					0.76	25.09	7.09	0.76				9.65	4.76	105.94	29.95	3.22				40.74	20.10	140.99	39.86	4.29		54.23	26.75	157.23	44.45	4.78		60.47	29.83	53.12	15.02	1.62		20.43	10.08	148.67	42.03	4.52		57.18	28.21															
0.58		0.98						12.84		21.83						12.68		21.56						13.21		22.46				6.68		11.36			1.18		2.00			3.21		5.46																				
		0.05								1.20								1.19								1.20						0.59					0.05				0.27																					
	1.89	2.03							8.35	8.99							14.64	15.77																	4.83	5.20					20.00																					
														0.22													4.20																		4.40																	
	201.83	0.00	0.00							5.60		0.01	0.01					0.16	0.21							56.12																																				
	23.27								48.98								656.40			0.02	0.03					598.36											0.11	0.15					656.40		0.67	0.91																
			0.05	0.36	0.08					0.29	1.90	0.42					12.62	83.41	18.20							6.65	43.99	9.60																																		
																						2.02																																								
			0.01		0.02					0.87		1.25					9.60		13.85								1.17		1.69									0.98	1.42		0.02																					
	6.49	0.01							0.01	0.08	0.02			0.10			1.13	9.07	2.68							0.80	6.42	1.90																																		
			0.36							0.71	0.00							74.33	0.13																																											
	0.06	0.04															4.13										2.63																																			
			0.02							0.08		0.11		0.38				6.52	5.00								0.70	0.54		0.55																																
	1.33									2.69								88.43									43.02																																			
	1.55	0.05								5.48	0.17							413.46	12.55								19.94	0.60																																		
	0.01	0.00	0.03		0.04					0.04	0.02	0.18		0.27				0.62	0.25	2.72							0.05	0.02	0.21	0.30																																
4.6	23.3	214.3	3.3	0.5	0.4	1.7	35.2	0.8	37.9	49.0	30.5	33.4	1.5	2.0	11.6	0.7	4.8	118.6	657.5	691.1	62.5	40.4	84.8	76.7	18.1	20.5	154.2	599.2	213.5	31.1	14.8	44.1	65.8	13.6	26.8	163.9	657.5	334.8	20.8	15.5	48.9	73.6	32.0	29.9	54.3	656.4	84.0	11.9	7.4	34.2	30.7	2.3	10.2	151.9	656.4	235.9	47.5	34.0	67.7	101.7	18.2	28.8
1.6%	8.2%	75.5%	1.2%	0.2%	0.1%	0.6%	12.4%	0.3%	22.1%	28.6%	17.8%	19.5%	0.9%	1.2%	6.8%	0.4%	2.8%	6.7%	37.1%	39.0%	3.5%	2.3%	4.8%	4.3%	1.0%	1.2%	13.3%	51.5%	18.4%	2.7%	1.3%	3.8%	5.7%	1.2%	2.3%	11.9%	47.7%	24.3%	1.5%	1.1%	3.5%	5.3%	2.3%	2.2%	6.1%	73.6%	9.4%	1.3%	0.8%	3.8%	3.4%	0.3%	1.1%	11.3%	48.9%	17.6%	3.5%	2.5%	5.0%	7.6%	1.4%	2.1%
4	3	1	5	8	9	6	2	7	2	1	4	3	8	7	5	9	6	3	2	1	6	7	4	5	9	8	3	1	2	6	8	5	4	6	7	3	1	2	6	8	4	5	9	7	3	1	2	6	7	5	4	9	8									