Armor Materials

organics	DEF @1 cm	DEF 1 gm	gm/cm³	Speed	cm/layer	DEF/layer	kg/m²	notes
bakalite sheet	0	-2	1.5	1				
acrylic sheet	2	1.1	1.2	1				
polycarbonate sheet	11	9.6	1.2	1				
ballistic nylon fiber mesh	12	15.1	0.45	0	0.06	-2	0.28	flexible
ballistic fiberglas	14	7.4	1.3	1				
kevlar fiber mesh	17	19.2	0.65	0	0.03	-0.71	0.195	flexible
kevlar fiberglas	19	17.5	1.35	1				
spectra fiber mesh	18	20.6	0.6	0	0.025	-0.63	0.15	flexible
spectra fiberglas	20	18.7	1.3	1				
ballistic cloth (Traveller)	20	20.5	0.8	2	0.05	6	0.4	flexible
graphite fiber mesh	23	23.5	0.9	0	0.015	1.79	0.15	flexible
graphite fiberglas	25	22.6	1.6	1				
Fullerene fiber mesh	27	30.5	0.5	0				flexible
advanced ballistic cloth	28	28	1	2	0.05	14	0.5	flexible
bi-phase carbyne (10%)	27	26.1	1.2	5				
BPC leaf (40% carbyne)	33	29.8	1.9	5				
carbyne fiber mesh	33	31.3	1.4	0	0.005	3.25	0.08	flexible
carbyne solid	35	28.7	3.5	5				
carbyne matrix	38	31.7	3.5	5				(structured solid)

metals	DEF @1 cm	DEF 1 gm	gm/cm³	Speed	cm/layer	DEF/layer	kg/m²	notes
bronze	9	-1.9	8.6	1				
aluminum, soft	10	5	2.7	1				(1990s' cars)
brass	11	0.3	8.4	1				
steel, early	13	2.6	7.8	2				
aluminum, aircraft/armor	15	10.4	2.5	1				
steel, mild	15	4.6	7.8	2				(70s' cars, doors)
steel, improved armor	17	6.8	7.6	2				
steel, stainless	18	7.6	7.9	2				
steel, vanadium armor	18	8.2	7	2				
titanium armor alloy	20	12.4	4.5	2				
superplastic steel	25	14.7	7.75	1				
superplastic nano-steel	31	21.7	7.75	1				

ceramics	DEF @1 cm	DEF 1 gm	gm/cm³	Speed	cm/layer	DEF/layer	kg/m²	notes
boron carbide (B4C)	22	17.4	2.5	4				
carbon fiber (10%) in B4C	25	20.4	2.5	3				
carbon mesh (40%) in B4C	26	21.4	2.4	3				
cermet (aluminum/B4C)	26	21.6	2.4	2				
cermet (titanium/B4C)	30	24.5	3	2				
Fullerine fiber/cement	31	26.4	2.5	2				

composites	DEF @1 cm	DEF 1 gm	gm/cm³	Speed	cm/layer	DEF/layer	kg/m²	notes
chobham - U.K.	17	9.3	4.8	3				
chobham - U.S.	18	10.6	4.3	3+				
chobham - U.S. DU	20	11.9	5	3+				
Ti/graphite/B4C+C	24	17.3	3.8	4-				

common armors	DEF @1 cm	DEF 1 gm	gm/cm³	Speed	cm/layer	DEF/layer	kg/m²	notes
water: liquid	-9	-9	1	0				
bone	5	2.03	1.8	1				
wood : soft	0	2.6	0.6	1				
wood : hard	3	2.5	1.1	1				
clay	0	-3.5	2	1				
sand/stone chips	3	0.3	1.7	1				
stone : soft	5	1	2.2	1				
stone : hard	7	2.2	2.6	1				
concrete : standard	2	-2.4	2.4	1				
concrete : hard	6	0.5	3	1				
concrete : armor	8	1.7	3.5	2				
heavy leather	5	4.1	1.2	0	0.64	2.7	7.62	flexible
cuirboille	5	4.1	1.2	1	0.64			
heavy silk (40% mesh)	9	11.6	0.6	0	0.08	-3.8	0.48	flexible
medium mail (20% mesh) - 3/8" rings, early steel	8	4.5	2	0	0.48	6.3	9.5	

40% mesh armor (dense weave) is -4.6 DEF + (speed) DEF. Speed class Ø, density is x 0.4 of solid density.
Mesh/solid composites are the speed class of the matrix.

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