



By adjusting elements of our production process, the cell geometry has been adapted so that the aluminium honeycomb can be formed into 3D shapes. The resulting benefit of this cell configuration is that the flexible honeycomb retains its cell shape and therefore its strength, making it ideal for use in curved, spherical, cylindrical and organic shapes.

SuperFlex flexible honeycomb can be used for a wide range of applications, including train interiors, architectural structures, boat hulls, car and caravan body panels. Another application is in sports helmets where it is used as an energy absorber, providing protection to the wearer. As with our standard aluminium honeycomb, the product also adds strength whilst reducing the weight.

MATERIAL SPECIFICATION

Corex Honeycomb manufacture pentagonal honeycomb with 3000 and 5000 alloy grades. SuperFlex can be supplied in a variety of conditions:

- | Perforated or non-perforated
- | Expanded or unexpanded
- | In full blocks or cut slices

For further manufacturing information see the Technical Specification table.



TECHNICAL SPECIFICATIONS ▶

COREX ALUMINIUM HONEYCOMB RANGE																															
CELL SIZE	1" 25.4mm		3/4" 19.1mm		1/2" 12.7mm		3/8" 9.5mm		1/4" 6.4mm		3/16" 4.8mm		1/8" 3.2mm		1/16" 1.6mm																
	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³															
3000 Alloy Series	DENSITY															0.9	14.4	1.3	20.8	1.8	28.8	2.4	38.4	3.4	54.5	4.4	70.5	8.1	129.7	12.4*	198.6*
																1.3	20.8	1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.0*	16.4*	262.7*
5000 Alloy Series	DENSITY															0.6	9.6	0.8	12.8	1.1	17.6	1.6	25.3	2.3	36.8	3.1	49.7	4.5	72.1	9.2	147.7
																1.3	20.8	1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.2*	16.4*	262.7*

COREX 3000 ALLOY SERIES									
CELL SIZE	Nominal Density lb/ft ³	Compressive			Crush Strength psi	Plate Shear			
		Bare	Stabilised	Strength psi		L Direction		W Direction	
						Strength psi	Modulus ksi	Strength psi	Modulus ksi
1/4 (6.4mm)	3.4 (54.5 kg/m ³)	305	330	115	205	35	105	17	
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	625	655	235	360	65	210	35	
3/8 (9.5mm)	2.4 (38.4 kg/m ³)	180	195	55	115	24	65	12	
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	335	365	120	225	40	125	20	
1/2 (12.7mm)	1.8 (28.8 kg/m ³)	100	115	35	90	20	55	8	
1/2 (12.7mm)	2.6 (41.6 kg/m ³)	195	210	60	135	27	75	13	
3/4 (19.1mm)	1.3 (20.8 kg/m ³)	55	65	25	50	13	35	6	
3/4 (19.1mm)	1.8 (28.8 kg/m ³)	115	125	40	95	22	60	10	

COREX 5000 ALLOY SERIES									
CELL SIZE	Nominal Density lb/ft ³	Compressive			Crush Strength psi	Plate Shear			
		Bare	Stabilised	Strength psi		L Direction		W Direction	
						Strength psi	Modulus ksi	Strength psi	Modulus ksi
1/16 (1.6mm)	9.2 (147 kg/m ³)	1470	1519	735	850	150	520	53	
1/16 (1.6mm)	16.4 (262 kg/m ³)*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
1/8 (3.2mm)	4.5 (72.1 kg/m ³)	539	559	255	340	70	220	31	
1/8 (3.2mm)	10.0 (160.2 kg/m ³)*	2058	2205	1029	980	175	550	65	
3/16 (4.8mm)	3.1 (49.7 kg/m ³)	284	328	127	210	45	125	22	
3/16 (4.8mm)	6.9 (110.5 kg/m ³)	1097	1152	564	590	114	375	46	
1/4 (6.4mm)	2.3 (36.8 kg/m ³)	186	206	74	140	32	85	16	
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	676	745	328	410	82	265	35	
3/8 (9.5mm)	1.6 (25.6 kg/m ³)	88	93	39	85	21	50	11	
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	362	402	176	250	55	160	26	

SUPERFLEX FLEXIBLE ALUMINIUM HONEYCOMB RANGE																											
CELL SIZE	3/4" 19.1mm		1/2" 12.7mm		3/8" 9.5mm		1/4" 6.4mm		3/16" 4.8mm		1/8" 3.2mm																
	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³	lb/ft ³	kg/m ³															
3000 Alloy Series	DENSITY															1.3	20.8	1.8	28.8	2.4	38.8	3.4	54.5	4.4	70.5	8.1	129.7
																1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.0*
5000 Alloy Series	DENSITY															0.8	12.8	1.1	17.6	1.6	25.3	2.3	36.8	3.1	49.7	4.5	72.1
																1.8	28.8	2.6	41.6	3.7	59.3	5.2	83.3	6.9	110.5	10.0*	160.2*

SUPERFLEX 3000 ALLOY SERIES					
CELL SIZE	Nominal Density lb/ft ³	Compressive			Crush Strength psi
		Bare	Stabilised	Strength psi	
1/4 (6.4mm)	3.4 (54.5 kg/m ³)	305	330	115	
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	625	655	235	
3/8 (9.5mm)	2.4 (38.4 kg/m ³)	180	195	55	
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	335	365	120	
1/2 (12.7mm)	1.8 (28.8 kg/m ³)	100	115	35	
1/2 (12.7mm)	2.6 (41.6 kg/m ³)	195	210	60	
3/4 (19.1mm)	1.3 (20.8 kg/m ³)	55	65	25	
3/4 (19.1mm)	1.8 (28.8 kg/m ³)	115	125	40	

SUPERFLEX 5000 ALLOY SERIES					
CELL SIZE	Nominal Density lb/ft ³	Compressive			Crush Strength psi
		Bare	Stabilised	Strength psi	
1/8 (3.2mm)	4.5 (72.1 kg/m ³)	539	559	255	
1/8 (3.2mm)	10.0 (160.2 kg/m ³)*	2058	2205	1029	
3/16 (4.8mm)	3.1 (49.7 kg/m ³)	284	328	127	
3/16 (4.8mm)	6.9 (110.5 kg/m ³)	1097	1152	564	
1/4 (6.4mm)	2.3 (36.8 kg/m ³)	186	206	74	
1/4 (6.4mm)	5.2 (83.3 kg/m ³)	676	745	328	
3/8 (9.5mm)	1.6 (25.6 kg/m ³)	88	93	39	
3/8 (9.5mm)	3.7 (59.3 kg/m ³)	362	402	176	

* Sizes available on request. The above is an indication of the properties of Corex Honeycomb's aluminium honeycomb core. Please note that the above values are not guaranteed and should be used as an indication only. Variations in the above mentioned figures may occur without notice.