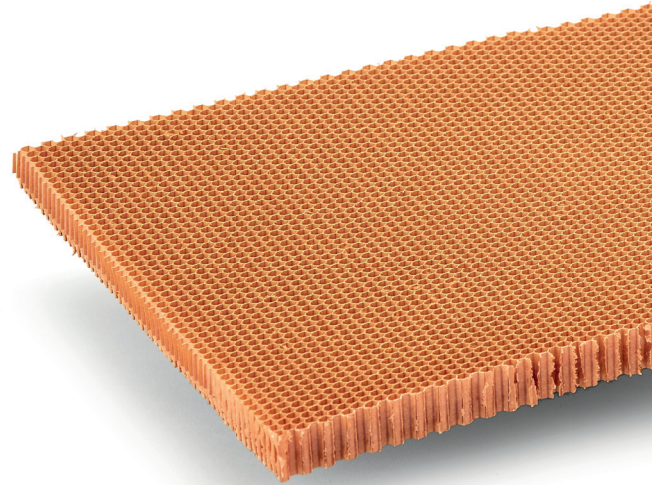


Nomex® honeycomb - commercial

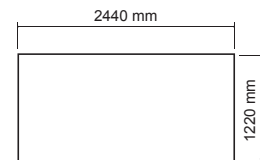
Nomex® honeycomb core is an extremely lightweight, high strength, non metallic product manufactured with aramid fiber paper impregnated with a heat resistant phenolic resin. This core material offers unique combination of properties which allows superior electrical insulation. Aramid paper is used in boat hulls, auto racing bodies and military shelters. Furthermore it's very appreciated by the aeronautical, railway and shipyard industry.



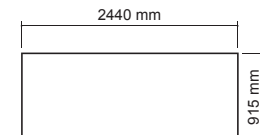
Our clients can choose between industrial and aeronautical grade.

Honeycomb core's properties					
Nomenclature			Compression Strength	L-Shear	W-Shear
	Cell size mm	Density kg/m ³	N/mm ²	N/mm ²	N/mm ²
Hexagonal	3,2	48	1,90	1,16	0,62
Hexagonal	3,2	64	3,10	1,48	0,82
Hexagonal	3,2	80	4,70	1,95	1,05
Hexagonal	3,2	96	6,60	2,45	1,42
Hexagonal	3,2	128	11,30	2,95	1,78
Hexagonal	3,2	144	13,20	3,05	1,90
Hexagonal	4,0	29	0,60	0,45	0,26
Hexagonal	4,0	80	5,10	1,90	0,98
Hexagonal	4,8	32	0,90	0,58	0,36
Hexagonal	4,8	48	2,60	0,98	0,56
Hexagonal	4,8	64	3,40	1,70	0,92
Hexagonal	4,8	80	6,00	1,95	1,10
Hexagonal	4,8	96	7,30	2,26	1,32
Hexagonal	6,4	24	0,54	0,34	0,18
Hexagonal	6,4	32	0,80	0,54	0,30
Hexagonal	6,4	48	2,05	1,00	0,56
Hexagonal	6,4	64	3,40	1,54	0,79
Hexagonal	9,6	24	0,52	0,32	0,16
Hexagonal	9,6	32	0,68	0,56	0,29
Hexagonal	9,6	48	1,80	1,15	0,66
Over expanded	4,8	29	0,60	0,31	0,32
Over expanded	4,8	48	2,30	0,60	0,72
Over expanded	4,8	64	3,80	0,72	0,90
Over expanded	4,8	72	4,00	0,75	0,92
Over expanded	4,8	80	5,30	0,88	1,17
Over expanded	4,8	96	6,70	0,92	1,28
Over expanded	6,4	48	2,30	0,60	0,72
Over expanded	6,4	64	3,20	0,72	0,90

Standard dimensions (other dimensions available on request)



Hexagonal cell sizes



Rectangular cell sizes

Density tolerance +/- 16%
 Thickness' tolerance: +/- 0.250 mm

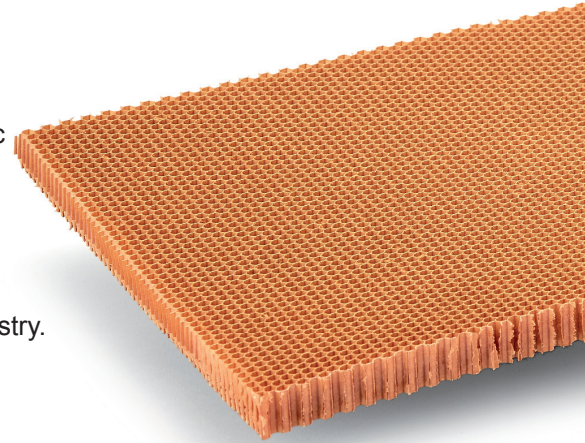
Nomex® honeycomb - aeronautic

Nomex® honeycomb core is an extremely lightweight, high strength, non metallic product manufactured with aramid fiber paper impregnated with a heat resistant phenolic resin.

This core material offers unique combination of properties which allows superior electrical insulation. Aramid paper is used in boat hulls, auto racing bodies and military shelters.

Furthermore it's very appreciated by the aeronautical, railway and shipyard industry.

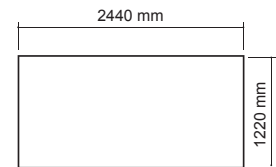
Our clients can choose between industrial and aeronautical grade.



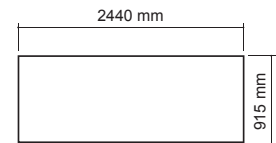
Honeycomb core's properties				Compression		Plate Shear							
	Cell size mm	Density kg/m ³	(µm)	bare Strength N/mm ²		L-direction				W-direction			
						strength N/mm ²		modulus N/mm ²		strength N/mm ²		modulus N/mm ²	
				min	typ	min	typ	min	typ	min	typ	min	typ
Hexagonal	3.2	29	(38)	0.54	0.80	0.52	0.62	22	27	0.28	0.38	12	16
Hexagonal	3.2	48	(51)	1.90	2.10	1.16	1.32	38	48	0.62	0.72	24	30
Hexagonal	3.2	64	(51)	3.70	4.50	1.48	1.78	50	64	0.82	0.97	30	38
Hexagonal	3.2	64	(76)	3.10	3.90	1.60	1.90	60	68	0.94	1.05	38	44
Hexagonal	3.2	80	(76)	4.70	5.50	1.95	2.35	68	80	1.05	1.25	38	48
Hexagonal	3.2	96	(76)	6.60	7.44	2.45	2.80	86	96	1.42	1.68	56	68
Hexagonal	3.2	123	(76)	10.00	11.80	2.90	3.35	98	118	1.76	1.94	71	84
Hexagonal	3.2	128	(76)	11.30	12.88	2.95	3.40	104	128	1.78	2.05	74	87
Hexagonal	3.2	144	(76)	13.20	15.20	3.05	3.50	110	128	1.90	2.20	80	94
Hexagonal	3.2	200	(76)	23.00	26.60	3.60	4.00	120	138	2.20	2.70	84	98
Hexagonal	4.0	29	(51)	0.60	0.80	0.45	0.56	18	26	0.26	0.34	11	14
Hexagonal	4.0	48	(51)	2.26	2.68	1.06	1.20	34	42	0.56	0.68	22	28
Hexagonal	4.0	64	(76)	3.90	4.65	1.44	1.70	48	58	0.80	0.90	30	40
Hexagonal	4.0	80	(76)	5.10	5.70	1.90	2.50	66	78	0.98	1.26	36	44
Hexagonal	4.0	123	(102)	9.30	10.80	3.40	3.85	110	125	1.86	2.10	58	68
Hexagonal	4.0	128	(102)	10.00	11.50	3.50	3.90	115	130	1.90	2.20	60	70
Hexagonal	4.0	144	(102)	13.00	16.00	3.60	4.00	120	135	2.00	2.40	70	82
Hexagonal	4.8	32	(51)	0.90	1.15	0.58	0.76	23	31	0.36	0.42	16	22
Hexagonal	4.8	48	(51)	2.60	2.85	0.98	1.14	34	40	0.56	0.66	22	28
Hexagonal	4.8	64	(76)	3.40	4.40	1.70	2.00	52	64	0.92	1.14	34	46
Hexagonal	4.8	96	(76)	8.40	9.00	2.26	2.56	78	84	1.32	1.48	46	56
Hexagonal	4.8	96	(102)	7.30	8.00	2.52	2.85	88	94	1.44	1.68	56	64
Hexagonal	4.8	123	(127)	9.30	10.80	3.40	3.85	110	125	1.86	2.10	58	68
Hexagonal	6.4	24	(51)	0.54	0.70	0.34	0.52	14	20	0.18	0.26	11	14
Hexagonal	6.4	32	(51)	0.80	1.06	0.54	0.76	22	32	0.30	0.40	12	20
Hexagonal	6.4	50	(76)	2.15	2.60	1.00	1.26	30	44	0.56	0.72	20	28
Hexagonal	6.4	64	(76)	3.40	4.60	1.54	1.92	54	66	0.79	1.10	32	40
Hexagonal	9.6	24	(76)	0.52	0.66	0.32	0.52	13	21	0.16	0.26	9	14
Hexagonal	9.6	32	(76)	0.68	1.06	0.56	0.77	18	30	0.29	0.38	11	17
Hexagonal	9.6	48	(76)	1.80	2.20	1.15	1.30	30	41	0.66	0.80	20	26
Hexagonal	12.8	32	(127)	0.75	0.95	0.46	0.56	16	20	0.26	0.30	9	12
Hexagonal	12.8	64	(127)	2.80	3.40	1.60	1.82	52	64	0.88	1.15	26	36
Hexagonal	19.2	24	(127)	0.50	0.62	0.50	0.60	11	16	0.22	0.28	9	11
Hexagonal	19.2	32	(127)	0.70	0.92	0.60	0.80	18	28	0.32	0.48	14	22
Over-expanded	4.8	29	(51)	0.60	0.85	0.31	0.42	9	14	0.32	0.44	14	24
Over-expanded	4.8	48	(51)	2.30	2.80	0.66	0.74	18	24	0.72	0.82	36	44
Over-expanded	4.8	64	(51)	3.80	4.60	0.72	0.84	22	26	0.90	1.04	48	56
Over-expanded	6.4	48	(51)	2.30	2.80	0.66	0.74	15	22	0.72	0.78	33	42
Over-expanded	6.4	56	(51)	2.80	4.10	0.74	0.94	18	24	0.78	0.92	36	46
Over-expanded	6.4	64	(51)	3.20	4.50	0.82	0.92	21	26	0.92	1.02	40	56

Tolerance - density +/- 16%

Standard dimensions
 (other dimensions available on request)



Hexagonal cell sizes



Rectangular cell sizes

NOMEX® - AERONAUTIC

Last Revised: 09/17_Rev.1