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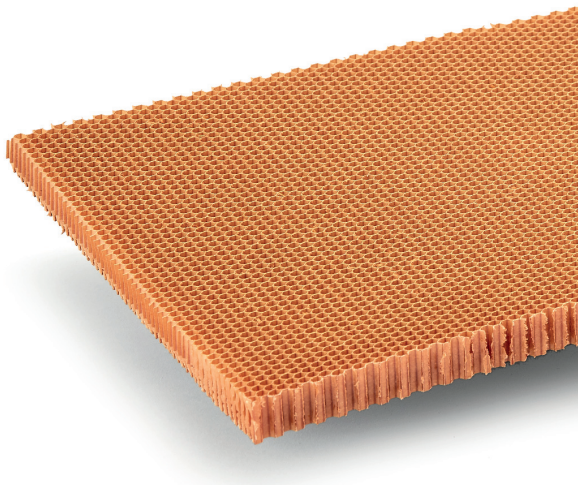
P.IVA 04102600378 CCIAA BO 0339628
ALUMINIUM AND THERMOPLASTIC HONEYCOMBS, LAMINATES, SANDWICH PANELS

ENG

Nomex® SC1 honeycomb - aeronautic

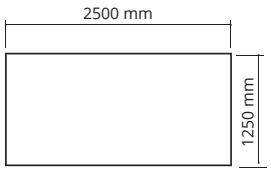


Nomex® SC1 honeycomb core is an extremely lightweight, high strength, non metallic product manufactured with aramid fiber paper impregnated with a heat resistant phenolic resin.
This core material offers unique combination of properties which allows superior electrical insulation. Aramid paper is used in boat hulls, auto racing bodies and military shelters.
Furthermore it's very appreciated by the aeronautical, railway and shipyard industry.

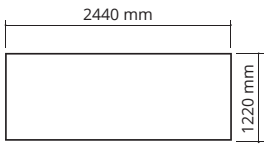
Our clients can choose between industrial and aeronautical grade.

Honeycomb core's properties	Cel width mm	Density kg/m³	Compressive strength (MPa)		Shear strength (MPa)		Shear modulus (MPa)	
			bare	stabilized	L	W	L	W
HEXAGONAL C1	3.2	- 29	0.56	0.75	0.45	0.30	15.00	11.00
HEXAGONAL C1	3.2	- 48	1.80	2.10	1.35	0.80	42.00	25.00
HEXAGONAL C1	3.2	- 56	1.90	2.55	1.45	0.90	46.00	27.00
HEXAGONAL C1	3.2	- 64	3.10	3.40	1.75	1.00	55.00	35.00
HEXAGONAL C1	3.2	- 80	4.40	4.90	1.95	1.08	62.00	35.00
HEXAGONAL C1	3.2	- 96	5.90	6.40	2.15	1.20	77.60	45.00
HEXAGONAL C1	3.2	- 123	9.90	10.00	3.00	2.00	95.00	65.00
HEXAGONAL C1	3.2	- 128	8.30	9.20	3.10	2.00	107.00	51.00
HEXAGONAL C1	3.2	- 144	10.50	11.90	3.10	2.20	108.00	58.70
HEXAGONAL C1	4.0	- 123	7.50	8.00	3.00	1.90	100.00	62.00
HEXAGONAL C1	4.8	- 32	0.80	0.90	0.60	0.35	20.00	14.00
HEXAGONAL C1	4.8	- 48	2.00	2.30	1.25	0.60	41.00	25.00
HEXAGONAL C1	4.8	- 56	2.20	2.50	1.30	0.65	45.00	29.00
HEXAGONAL C1	4.8	- 64	3.00	3.50	1.80	0.95	55.00	30.00
HEXAGONAL C1	4.8	- 96	6.50	7.00	2.60	1.45	82.00	40.00
HEXAGONAL C1	6.4	- 24	0.40	0.45	0.35	0.23	13.50	9.00
HEXAGONAL C1	6.4	- 32	0.65	0.80	0.55	0.35	19.00	14.00
HEXAGONAL C1	6.4	- 50	2.10	2.30	1.20	0.59	41.40	17.70
HEXAGONAL C1	6.4	- 64	3.20	3.50	1.50	0.80	51.00	25.00
HEXAGONAL C1	6.4	- 80	3.50	3.90	1.90	1.05	53.85	29.50
HEXAGONAL C1	9.6	- 24	0.40	0.47	0.34	0.22	13.30	9.63
HEXAGONAL C1	9.6	- 32	0.68	0.77	0.65	0.32	16.30	13.40
HEXAGONAL C1	9.6	-48	1.30	1.57	0.82	0.40	28.80	18.50
OVER EXPANDED C1	4.8	- 29 OX	0.60	0.68	0.45	0.32	9.50	14.10
OVER EXPANDED C1	4.8	- 48 OX	2.20	0.79	0.79	0.79	30.00	30.00
OVER EXPANDED C1	6.4	- 48 OX	1.80	2.00	0.74	0.74	18.00	25.00
OVER EXPANDED C1	6.4	- 56 OX	2.00	2.30	0.90	0.90	21.00	32.00

Standard dimensions
(other dimensions available on request)



Hexagonal cell sizes



Rectangular cell sizes

Honeycomb density: the permissible tolerance is +10% of the nominal density.
Exceptions from this are the grades 3.2-29, 4.8-29OX und 6.4-24, which are tolerated at +/- 13% of the density.

NOMEX® SC1 - AERONAUTIC

Last Revised: 06/25_Rev.0

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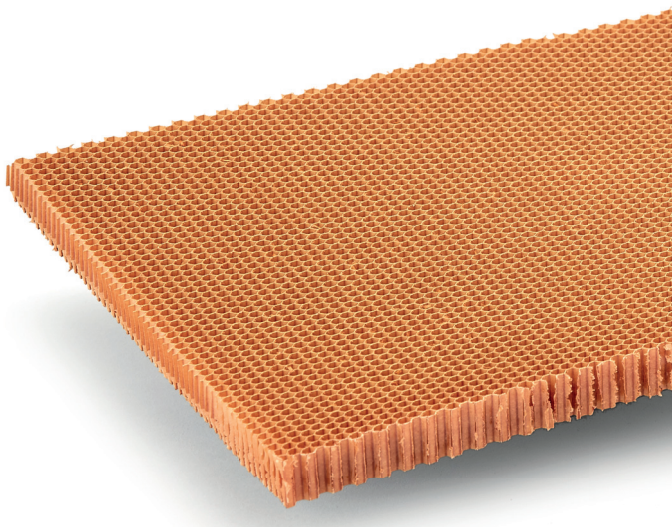
Nomex® SC2 honeycomb - commercial

Nomex® SC2 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	Cel width mm	Density kg/m³	Compressive strength (N/mm²)		Shear strength L (N/mm²)		Shear modulus L (N/mm²)		Shear strength W (N/mm²)		Shear modulus W (N/mm²)	
			μ	μ-σ	μ	μ-σ	μ	μ-σ	μ	μ-σ	μ	μ-σ
HEXAGONAL C2	3.2	- 29[1]	0.54	0.49	0.56	0.52	25.00	22.00	0.31	0.30	13.00	11.00
HEXAGONAL C2	3.2	- 48[2]	2.11	1.90	1.21	1.15	43.00	40.00	0.62	0.59	23.00	21.00
HEXAGONAL C2	3.2	- 64[2]	3.89	3.00	1.8	1.67	61.00	56.00	1.00	0.90	37.00	34.00
HEXAGONAL C2	3.2	- 70[2]	4.86	3.97	1.83	1.77	63.00	59.00	1.05	0.94	42.00	39.00
HEXAGONAL C2	3.2	- 72[2]	4.86	3.97	1.83	1.77	63.00	59.00	1.05	0.94	42.00	39.00
HEXAGONAL C2	3.2	- 75[2]	4.86	3.97	1.83	1.77	63.00	59.00	1.05	0.94	42.00	39.00
HEXAGONAL C2	3.2	- 80[2]	5.58	4.87	2.46	2.06	85.00	76.00	1.34	1.23	47.00	42.00
HEXAGONAL C2	3.2	- 90[2]	7.06	6.21	2.45	2.25	82.00	77.00	1.49	1.41	55.00	52.00
HEXAGONAL C2	3.2	- 96[2]	7.77	6.93	2.62	2.41	87.00	82.00	1.61	1.53	60.00	56.00
HEXAGONAL C2	3.2	- 123[2]	11.90	11.01	3.16	2.79	105.00	98.00	2.18	2.10	83.00	78.00
HEXAGONAL C2	3.2	- 128[2]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	3.2	- 139[2]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	3.2	- 144[3]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	4.8	- 32[2]	0.90	0.77	0.62	0.60	38.00	35.00	0.34	0.32	16.00	14.00
HEXAGONAL C2	4.8	- 48[2]	2.11	1.81	1.11	1.04	41.00	39.00	0.62	0.58	23.00	22.00
HEXAGONAL C2	4.8	- 64[3]	3.67	3.32	1.93	1.76	59.00	54.00	1.10	1.01	39.00	37.00
HEXAGONAL C2	4.8	- 72[3]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	4.8	- 80[3]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	4.8	- 96[3]	7.11	6.21	2.34	1.95	113.00	100.00	1.63	1.39	62.00	68.00
HEXAGONAL C2	6.4	- 24[2]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	6.4	- 32[2]	0.85	0.80	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	6.4	- 50[2]	2.11	1.89	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	6.4	- 64[3]	3.45	3.07	1.92	1.82	56.00	51.00	1.38	1.26	45.00	41.00
HEXAGONAL C2	9.6	- 32[2]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEXAGONAL C2	9.6	- 48[2]	1.98	1.73	1.23	1.09	40.00	38.00	0.81	0.75	29.00	27.00
HEXAGONAL C2	9.6	- 64[3]	3.28	2.85	1.98	1.91	62.00	57.00	1.38	1.28	43.00	40.00

NOMEX® SC2 - COMMERCIAL

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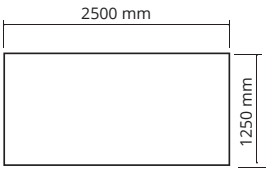
Honeycomb core's properties	Cel width mm	Density kg/m³	Compressive strength (N/mm²)		Shear strength L (N/mm²)		Shear modulus L (N/mm²)		Shear strength W (N/mm²)		Shear modulus W (N/mm²)	
			μ	μ-σ	μ	μ-σ	μ	μ-σ	μ	μ-σ	μ	μ-σ
OVEREXPANDED C2	4.8	- 29 OX[2]	0.56	0.52	0.53	0.48	11.00	9.00	0.44	0.37	22.00	16.00
OVEREXPANDED C2	4.8	- 32 OX[2]	0.72	0.67	0.57	0.52	12.00	10.00	0.53	0.45	26.00	20.00
OVEREXPANDED C2	4.8	- 48 OX[2]	1.81	1.44	0.77	0.72	18.00	17.00	0.98	0.91	46.00	40.00
OVEREXPANDED C2	4.8	- 64 OX[2]	2.89	2.52	0.97	0.93	24.00	23.00	1.43	1.36	67.00	61.00
OVEREXPANDED C2	4.8	- 72 OX[2]	3.42	3.05	1.08	1.03	27.00	26.00	1.65	1.58	77.00	71.00
OVEREXPANDED C2	4.8	- 80 OX[2]	3.96	3.59	1.18	1.13	30.00	29.00	1.88	1.81	87.00	81.00
OVEREXPANDED C2	4.8	- 96 OX[2]	5.04	4.67	1.38	1.33	36.00	35.00	2.33	2.26	107.00	101.00
OVEREXPANDED C2	6.4	- 32 OX[2]	0.73	0.71	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
OVEREXPANDED C2	6.4	- 48 OX[2]	1.70	1.57	0.65	0.62	16.00	15.00	0.95	0.90	45.00	41.00
OVEREXPANDED C2	6.4	- 56 OX[2]	2.10	1.92	1.12	1.05	26.00	23.00	1.30	1.24	56.00	52.00
PARTIALLY OVEREXPANDED C2	4.8	- 48 OV[2]	2.03	1.87	0.99	0.94	31.00	29.00	0.92	0.84	40.00	37.00
PARTIALLY OVEREXPANDED C2	4.8	- 64 OV[2]	4.40	4.30	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
PARTIALLY OVEREXPANDED C2	4.8	- 64 OV[3]	3.57	2.61	1.72	1.54	52.00	45.00	1.41	1.15	49.00	42.00
PARTIALLY OVEREXPANDED C2	4.8	- 72 OV[2]	4.54	4.43	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
PARTIALLY OVEREXPANDED C2	4.8	- 72 OV[3]	4.58	3.62	1.89	1.71	59.00	51.00	1.65	1.39	56.00	49.00
PARTIALLY OVEREXPANDED C2	4.8	- 80 OV[2]	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
PARTIALLY OVEREXPANDED C2	4.8	- 80 OV[3]	5.58	4.63	2.06	1.88	65.00	58.00	1.89	1.63	63.00	55.00
PARTIALLY OVEREXPANDED C2	4.8	- 96 OV[3]	7.49	6.84	2.29	2.20	75.00	70.00	2.24	2.11	79.00	74.00

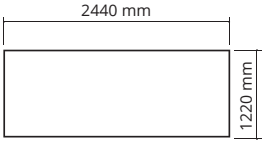
Honeycomb density: the permissible tolerance is +13% and -10% of the nominal density.
Exceptions from this are the grades C2 - 6.4 - 24; C2 - 3.2 - 29; C2 - 9.6 - 29 which are tolerated at +/- 15% of the density.

μ = mean value at nominal density
μ-σ = mean value - standard deviation at nominal density
[1] = 1,5 mil
[2] = 2 mil
[3] = 3 mil
TBD = On request

Standard dimensions
(other dimensions available on request)



Hexagonal cell sizes



Rectangular cell sizes

NOMEX® SC2 - COMMERCIAL

Last Revised: 06/25_Rev.0