



ARAMID (NOMEX) HONEYCOMB ... AEROSPACE GRADE ... AHN 4120

AHN4120 ARAMID FIBER/PHENOLIC COATED HONEYCOMB revised 6/29/2004

AHN 4120 is an Aerospace Grade Nomex Honeycomb which exhibits high strength and toughness in a small cell, low density, non-metallic honeycomb. It is particularly noted for its corrosion resistance. This material is fire resistant and is typically used in transport aircraft construction where low O.S.U., smoke, and toxicity characteristics are a necessity. This material also exhibits good thermal insulation properties and also has good dielectric properties. This honeycomb is easily machined, formed, and shaped and well suited to adhesive bonding.

PRODUCT DESIGNATION

A wide variety of cell sizes, web gauges, resin coating weights, and cell shapes are available. Strength characteristics are illustrated on the reverse side. The products are designated as follows:

AHN.....ADVANCED HONEYCOMB NOMEX

4120.....AEROSPACE GRADE

1/8.....CELL SIZE in inches

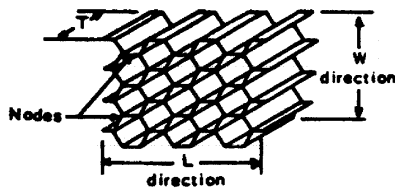
3.0.....DENSITY in pounds per cubic foot

(2).....THICKNESS OF ARAMID in mils

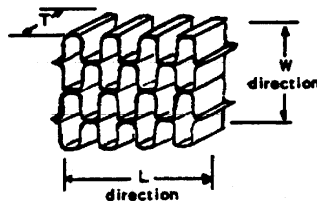
(this may not be specified)

O.X.INDICATES OVER-EXPANDED CELL SHAPE

(for curved surfaces, if omitted the cell shape is hexagonal)



Hexagonal Cell



Over-Expanded Cell

SPECIFICATIONS

AHN 4120 honeycomb meets most commercial and military specifications. These include the strength requirements of BMS 8-124, DMS 1974, AMS 3711, and MIL-C-81986. Most of the specifications have similar requirements. Because of the large number of specifications and frequent revisions, we must be advised as to your requirements when we quote. If no specification is stated, we will certify to our Product Data sheet.

AVAILABILITY

AHN 4120 is supplied in standard sheet sizes of 48"L by 96"W for hexagonal shaped cells and 38"L by 96"W for over-expanded shaped cells. The sheet thicknesses can be custom cut from .060 inches to 23 1/2 inches thick depending on the material cell size and density.

Special sheet sizes, both larger and smaller are available on a special order basis. Because of the special size, a minimum order may be required.

SHEET SIZE TOLERANCES

Length (W) & Width (L) = -0 +4 inches

Thickness (T) = +/- .006 up to 2.00 inches

= .010 to 4.00 inches

= .060 above 4.00 inches

Closer tolerances are possible and may carry a premium price.



Advanced Honeycomb Technologies, Inc.

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MECHANICAL PROPERTIES OF AHN 4120 AEROSPACE GRADE ARAMID NOMEX HONEYCOMB

PRODUCT	Compressive Strength				Plate Shear					
DESIGNATION	Bare		Stabilized		L Direction			W Direction		
CELL DENSITY	Strength psi		Strength psi		Strength psi		Modulus ksi	Strength psi		Modulus ksi
Hexagonal Cell	typ	min	typ	min	typ	min	typ	typ	min	typ
AHN 4120-1/8-1.8	105	70	115	80	90	66	3.8	50	36	1.8
AHN 4120-1/8-3.0	300	180	325	270	175	162	5.2	100	85	2.5
AHN 4120-1/8-4.0	520	330	575	470	255	225	7.0	140	112	3.6
AHN 4120-1/8-5.0	700	600	770	660	325	250	8.5	175	140	4.6
AHN 4120-1/8-6.0	1050	800	1125	825	385	260	10.0	200	135	4.7
AHN 4120-1/8-8.0	1675	1100	1830	1250	460	400	13.0	260	200	6.5
AHN 4120-1/8-9.0	2000	1400	2100	1600	515	425	15.0	300	240	8.0
AHN 4120-3/16-1.5	90	75	100	85	75	60	3.0	40	32	1.6
AHN 4120-3/16-2.0	145	90	160	105	110	72	4.3	60	40	2.0
AHN 4120-3/16-3.0	300	180	325	270	175	140	4.5	100	67	2.5
AHN 4120-3/16-4.0	400	320	540	470	245	225	7.0	140	112	3.8
AHN 4120-3/16-6.0	700	580	1020	650	420	360	13.0	225	200	4.5
AHN 4120-1/4-1.5	80	45	90	54	70	45	1.8	35	23	1.3
AHN 4120-1/4-2.0	140	80	155	105	105	72	2.2	50	38	1.8
AHN 4120-1/4-3.0	200	160	250	225	170	127	4.5	80	64	2.5
AHN 4120-1/4-3.1	285	180	310	240	185	135	5.6	90	75	3.0
AHN 4120-1/4-4.0	440	310	480	360	250	200	6.5	125	95	3.5
AHN 4120-1/4-4.8		320		450		225	7.3		140	4.0
AHN 4120-3/8-1.5	85	45	105	55	70	45	1.8	35	23	1.0
AHN 4120-3/8-2.0	140	80	155	105	90	72	2.2	55	36	1.3
AHN 4120-3/8-3.0	290	175	320	210	185	110	3.9	95	55	2.5
Over-Expanded Cell										
AHN 4120-3/16-1.8 OX	110	70	120	75	65	45	1.5	60	42	2.2
AHN 4120-3/16-3.0 OX	320	230	350	280	115	90	2.2	135	90	4.5
AHN 4120-3/16-4.0 OX	600	500	650	550	130	115	4.3	150	130	8.0
Aircraft Flooring Core										
AHN 4120-AFC-5.0	700	550	745	600	355	275	8.5	205	150	4.5
AHN 4120-AFC-9.0	1800	1400	2050	1600	480	425	15.0	320	275	8.0

All tests are per MIL-STD-401B, core thickness of .500 (for core (T) of .270 increase shear strengths by 14%). Min indicates a specification minimum value. Typ indicates averages of typical production test results.

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