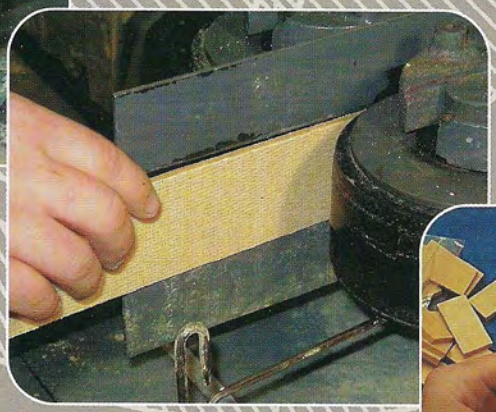
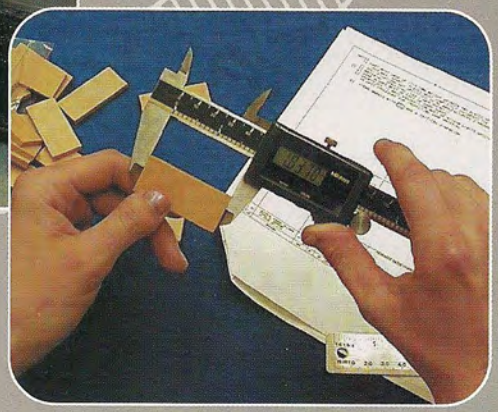
FRANKLIN

Serving Industry Since 1921

Precision Crafted Industrial Rotor Vanes





Product Consistency Guaranteed

Franklin Fibre-Lamitex Corporation's Lamitex® Grades for Rotor Vane & High P.V. Applications

GRADE	DESCRIPTION
EL-45	Very fine weave cotton fabric bonded with a high temperature epoxy resin. Combines excellent mechanical strength and low moisture absorption. Machines well to close tolerance.
PL-40M	Cotton fabric with a high temperature phenolic resin containing molybdenum disulfide for better wear performance. PL-40M works well in low duty applications for compressors and vacuum pumps. Applications include agricultural spreaders, liquid waste vacuum pumps and dairy pumps.
PL-60	Very fine weave bleached cotton fabric with a high temperature phenolic resin. This material offers a high degree of resin impregnation which provides excellent dimensional stability. PL-60 is specifically recommended for rotor vanes used in air motors, starter motors and small air tools.
PL-62	Fine weave cotton phenolic. Designed for better machining characteristics than standard cotton phenolic material. Lower cost material to the bleached linen PL-60. PL-62 is a cost effective alternative to PL-60. Black in color..
G-11	Woven glass fabric with epoxy resin. G-11 has good moisture and temperature resistance. Although slightly abrasive, with the proper amount of lubrication G-11 can perform well in high vacuum pumps.

GRADE	DESCRIPTION
PG-50	Graphite fibre fabric with a high temperature phenolic resin. It has excellent moisture resistance and physical properties. This material has gained acceptance as an asbestos replacement in high vacuum pumps.
EK-50	Aramid fibre composite fabric bonded with a high temperature epoxy resin. EK-50 has tremendous strength characteristics and excellent moisture resistance. This material performs well in lubricated air motors.
MK-50	Aramid fibre composite fabric with a melamine resin. MK-50 has excellent moisture resistance and chemical resistance while maintaining dimensional stability. Applications include rotor vanes for compressors and vacuum pumps for industrial processing and liquefied gas transfer.
PK-50N	Aramid fibre composite fabric bonded with a high temperature phenolic resin. PK-50N has excellent mechanical strength at elevated temperatures in adverse environments. Applications include rotor vanes for vacuum pumps for the dairy, liquid waste, oil refining and mining industries.

General Physical Properties

MECHANICAL (TYPICAL VALUES)	Units	Metric Units	EL-45	EL-45	PL-40M	PL-40M	PL-60	PL-60	PL-62	PL-62	G-11	G-11	PG-50	PG-50	EK-50	EK-50	MK-50	MK-50	PK-50N	PK-50N
Flexural Strength (.125") LW	PSI	MPa	25000	172.4	19000	179.3	30000	206.8	23000	101	80000	551.6	55200	380.6	48000	342	34000	234.25	33000	310.3
CW	PSI	MPa	19000	131	17000	134.5	23000	158.6	20000	139	70000	482.6	46800	322.7	20000	137.9	13000	89.56	15000	137.9
Hot Flexural Strength (.125") LW	PSI	MPa	16700	115.1	11500	79.3	22300	153.7	10000	69	40000	275.7	34500	237.8	12000	179.3	32000	220.5	18000	227.5
CW	PSI	MPa	12200	84.1	11100	76.5	17500	120.6	8000	53	33000	227.5	21600	148.9	6000	130.4	13000	89.6	18000	124.1
Flexural Modulus (.125") LW	KPSI	MPa	850	586	1200	8963	2300	1586	1700	1170	3000	20685	1300	8963	1800	12411	1200	8267	1200	8274
CW	KPSI	MPa	570	393	1000	7929	1600	1103	1300	890	2700	18616	1200	8274	1700	11721	1200	8267	1200	8274
Compressive Strength flatwise	PSI	MPa	29300	202	36000	337.9	51000	351.6	37000	258	63000	434.4	100000	690	32000	220.6	42000	298.6	39000	269
Tensile Strength (.125") LW	PSI	MPa	19500	134.5	11000	74.8	25000	172	13000	87.4	43000	296.5	80000	551.6	29000	200	20500	141.3	23000	158.6
CW	PSI	MPa	13000	89.6	9000	62	16000	110.3	11000	75	37000	255.1	55000	379.2	26000	179.3	16000	110.3	19000	313
Izod Impact Strength E-48/50 (.500")	ft-lb/in	J/mm	.06	0.03	1.7	0.186	2.1	0.112	2.5	0.123	12	0.639	40	2.13	15	0.85	32	1.7	27	1.7
notched	notched	.05	0.03	1.4	0.144	1.5	0.08	2.2	0.102	9	0.479	37	1.97	4	0.25	9	0.48	7	0.48
Rockwell Hardness	M-Scale +/–5	M-Scale +/–5	100	100	100	100	100	100	100	100	112	112	107	107	105	105	110	110	105	105
Bond Strength	lbs	kN	1800	8	1900	10.12	2000	8.9	2000	8.9	1200	9.68	1800	2.64	2400	10.66	2000	8.89	2400	10.56
Specific Gravity	—	—	1.35	1.35	1.4	1.4	1.34	1.34	1.35	1.35	1.8	1.8	1.55	1.55	1.32	1.32	1.42	1.42	1.35	1.35
PHYSICAL (TYPICAL VALUES)																				
Coefficient of Thermal Expansion	/"/Cx10-6	Cm/cm/Cx10-6																		
(.125")(3.0mm) X-axis			13	13	18	10	30	30	14.2	14.2	13	13	6	6	40	44.4	18	18	21	21
			24	24	24	15	12	12	14.4	14.4	15	15	11	11	20	26	11	11	31	30.8
Water Absorption (.125") (3.0mm)	%	%	0.5	0.5	1.95	1.5	1.05	1.05	1.7	1.7	0.2	0.2	0.1	0.1	0.5	0.33	5.7	5.7	3.69	1.7
Maximum Operating Temperature	C	C	125	125	170	170	150	150	125	125	165	165	230	230	175	175	140	140	240	240

Our Experience and Fabricating Capabilities Assure The Highest Quality Rotor Vanes

Customer Satisfaction Is Our First Priority

Quality Assurance is not just a "buzz word" around Franklin Fibre–Lamitex Corporation. Statistical Process Control (SPC) is performed at every stage of the manufacturing process to assure that we deliver the finest quality products to our customers with every delivery.

We begin with a thorough inspection of incoming materials to certify that compliance to our suppliers' physical property specifications have been met. These raw materials are then cut to tolerance on our CNC Holzma saw to guarantee squareness and consistency of product. Once the material is stripped to size, we use our wet sander and double disc grinder to finish the material. By grinding the surfaces we provide very fine surface quality on the face of the vane. We can maintain +/- .001" (.0254 mm) thickness tolerance on all of the rotor vane material that we offer.

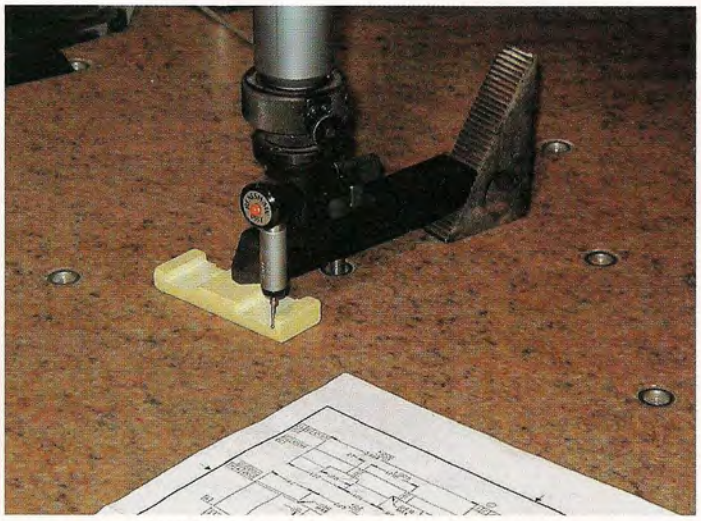
The rotor vanes are then finished to customers' exact specified tolerances utilizing our precision CNC Machining Centers with specialized tools. Through Franklin's many years experience machining tough materials for a wide variety of rotor vane and other applications, we have developed unique fabricating techniques that guarantee finish tolerances to the required specifications.

We are also equipped to handle any finishing operation that is required such as pre-lubrication, hot oil baking and/or special deburring. No product leaves our location until it has been inspected and approved to meet customers' exact specifications, as well as Franklin's high standard of quality. We can package vanes in sets and offer a JIT program to assure that you have the rotor vanes you need...when you need them.

Large Volume Production Methods Utilized

Adherence To Close Tolerance Requests

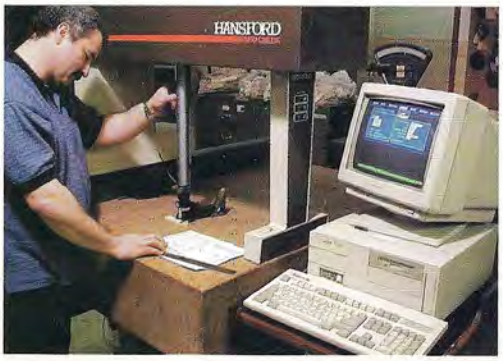
CNC Precision Machining



State-Of-The-Art Inspection Equipment

1-800-233-9739 • Website: www.franklinfibre.com • Email: info@franklinfibre.com

Statistical Process Control (SPC) Assures Strict Adherence to Specified Tolerances

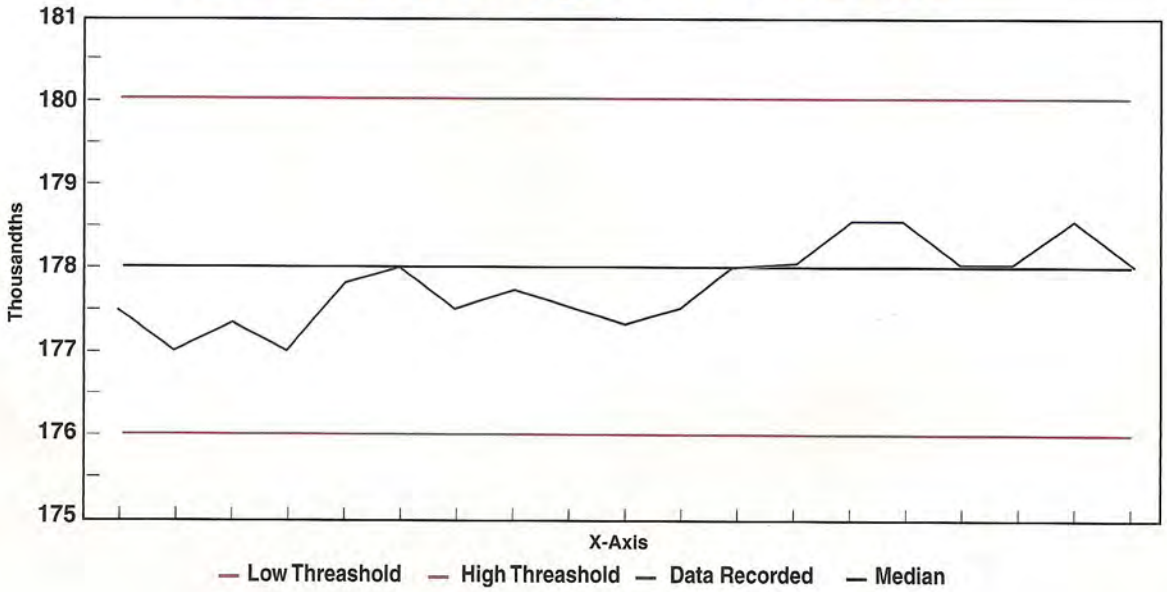


When you place an order with Franklin Fibre-Lamitex Corporation we want you to be confident that your order will be right the first time around. As depicted in the photograph to the left, special equipment is used to simulate performance and wear rate to assist in product specification.

The goal of Franklin is to provide our customers with the highest precision rotor vanes available in the marketplace. We utilize SPC methods throughout the entire manufacturing process because every employee wants to assure that customers' demands are met This guarantees that the specified tolerances are adhered to and that the product is "free of any defect". Every product undergoes careful inspection before it leaves our plant.

The chart below is a typical SPC readout illustrating the low and high tolerance of a specific part. Upon customer request, SPC data is available on all the parts we manufacture. We welcome the opportunity to work with you on your most demanding project. Our technical service staff will help you every step of the way, from concept to after delivery follow-up.

SPC Recording Part #82190



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