

UL FILE # E70062
 CHEMICAL GROUP,
 Division of Monsanto Co.
 VYDYNE Nylon
 20 North Lindbergh Blvd.
 St. Louis, MO 63167
 Phone Toll Free 1-800-984-8400

MARCH 24, 1997

NYLON 66

JUN. 04 1997

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This is the material
 cert for FC-50.

Product	Col	Minimum Thickness		UL94 Flame Class	IEC 707 Flame Class	1210 Flame Class	Elec	Temp Index (C)			H V T R	D 4 9 5	C T I	
		(mm)	(in)					Mechanical W Imp	H W	H A				
Polyamide (PA66), Type 66 nylon, designated "VYDYNE", furnished in the form of pellets.														
20NSP	ALL	0.71	0.028	94V-2	FV2	FV-2	140	95	115	4	0	0	-	-
20NSP		1.47	0.058	94V-2	FV2	FV-2	140	110	125	4	0	0	-	-
20NSP		3.05	0.120	94V-2	FV2	FV-2	140	110	125	4	0	0	6	1
20NSP	ALL	0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
20NSP		1.47	0.058	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
20NSP		3.05	0.120	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25A	BK	0.71	0.028	94V-2	FV2	FV-2	125	65	70	4	0	-	-	-
25A		1.47	0.058	94V-2	FV2	FV-2	125	75	100	3	0	0	-	-
25A		3.05	0.120	94V-2	FV2	FV-2	125	75	105	2	0	0	5	0
25W, 20NSP	ALL	0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0
25W, 25W		0.71	0.028	94V-2	FV2	FV-2	130	75	85	4	0	-	-	-
25W, 25W		1.47	0.058	94V-2	FV2	FV-2	130	75	85	3	0	0	-	-
25W, 25W		3.05	0.120	94V-2	FV2	FV-2	130	75	85	2	0	0	5	0

25W - natural & normal black.
 25A - weather resistant, black

VYDYNE NYLON

PROPERTIES	UNITS	TEST TEMP °F	66 NYLON						
			GENERAL PURPOSE VYDYNE 21, 21X, 21SP		HEAT STABILIZED VYDYNE 22H, 22HSP		NUCLEATED VYDYNE 24NSP		
			0.2% MOISTURE	2.5% MOISTURE	0.2% MOISTURE	2.5% MOISTURE	0.2% MOISTURE	2.5% MOISTURE	
MECHANICAL	Tensile Strength At Yield	psi	-40 73 170	15,500 12,000 9,000	15,000 9,000 6,000	12,400	9,500	13,700	10,400
	Elongation At Break	%	-40 73 170	20 80 >300	20 >200 >300	70	>200	30	35
	Elongation At Yield	%	-40 73 170	5 10 30	6 20 30	10 30	25 35	10 33	25 37
	Secant Flexural Modulus	psi	-40 73 170	470,000 400,000 100,000	490,000 190,000 90,000	415,000	195,000	450,000	232,000
	Secant Tensile Modulus	psi	73	430,000	190,000	430,000	190,000	517,000	329,000
	Flexural Strength	psi	73	13,000	6,000	15,200	8,100	16,800	9,600
	Mod Impact Strength, Notched, Charpy	ft-lb/in	-40 73	0.6 1.0	0.5 3.0	0.6 0.9	0.5 2.7	0.6 0.9	0.5 2.8
	Impact Modulus, Type S	ft-lb/sq in	73	80	100	75		70	100
	Rockwell Hardness	M Scale R Scale	73 73	85 120	60 105	88 119	61 108	88 121	69 113
	THERMAL	Deflection Temperature at 66 psi at 264 psi	°F °F		450 180	430 160	450 190	430 165	478 221
Melting Point (DSC)		°F		500		500		500	
Coefficient of Thermal Expansion		10 ⁻³ in/in/°F		4.5		4.5		4.5	
Specific Heat		BTU/lb/°F		0.4		0.4		0.4	
Thermal Conductivity		BTU hr-ft ² (°F/in)		1.7		1.7		1.7	
ELECTRICAL	Volume Resistivity	ohm-cm	73	6×10 ¹¹	2×10 ¹¹	3.6×10 ¹³	1.4×10 ¹³	2×10 ¹⁴	7×10 ¹⁷
	Dielectric Constant	10 ² Hz	73	3.7	6.1	3.6	7.4	3.7	7.0
		10 ³ Hz	73	3.6	6.0	3.6	5.9	3.6	6.1
		10 ⁴ Hz	73	3.1	3.5	3.6	3.7	3.3	3.9
	Dissipation Factor	10 ² Hz	73	0.02	0.04	0.008	0.19	0.01	0.11
		10 ³ Hz	73	0.02	0.04	0.013	0.14	0.01	0.09
		10 ⁴ Hz	73	0.03	0.08	0.017	0.06	0.02	0.07
	Dielectric Strength, Short Time	volts/mil	73	570	550	536	568	550	545
		Step by Step	volts/mil	73	540	480	482	433	500
	Dielectric Loss		73	1.14		1.14		1.14	
Moisture Absorption (24 hr)	%	73	1.2		1.4		1.1		
Flammability, U.L. 94	Flame class		V-2 at 0.028"		V-2 at 0.028"		V-2 at 0.028"		
Mold Shrinkage	mits/in		15-20		15-20		8-12		

Note: Values for Vydyne resin reported at 0.2% moisture are typical of those in the dry-as-molded state.
Values reported at 1.3-2.5% moisture represent the moisture levels reached at equilibrium in a 50% R.H. environment at 73°F.

(P.V.C) (W.P. UL) (P.V.C) (W.P. UL)

plastic material U.L. card

OMFZ2
Component - Plastics
May 29, 1986

NAN YA PLASTICS CORP
201 TUNG HWA NORTH RD, TAIPEI 105 TAIWAN

E98658 (S)

Qsg	Col	In.	(mm)	UL94 Class
PVC/AB6, furnished in the form of molded parts	Any	0.062	(1.58)	94V-0
ZAAAFAC 024	Any	0.125	(3.17)	94V-0
Polyvinyl chloride compound, furnished in the form of pellets.	Any	0.061	(1.50)	54V-0
Marking: Company name and material designation on container, wrapper or part.				

See General Information Preceding These Recognitions.

UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, whose the acceptability of the recognition is determined by UL.

Report: November 10, 1985; August 8, 1982.

Replaces E98658 dated March 31, 1986.
98684001 10081 Underwriters Laboratories Inc. 0100522100

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