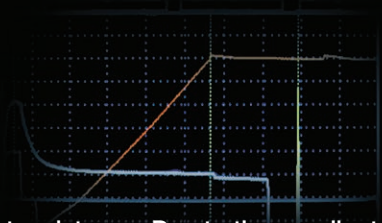


NF-2000



NF-2000 is a sheet made of polycarbonate with excellent transparency and impact resistance. Due to the excellent anti-combustibility and insulation it provides, NF-2000 is adopted for various applications including automotive parts, electric and electronic parts, signs and displays, and machinery parts. (NF-2000, with thickness ranging from 0.3 to 1.0mm, has the burning characteristics compliant with UL94V-2.)

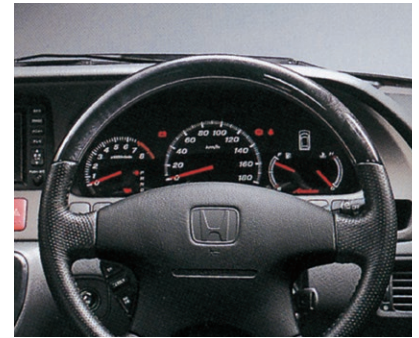
Automobile applications

NF-2000 has both the heat resistance with the practical temperatures of -30 to 110 degrees C, and workability that allows for easy printing, die-cutting, and thermoforming. NF-2000 is reputed for high reliability as a material for automotive parts in the electronic age.

It passed for FMVSS (Federal Motor Vehicle Safety Standards No.302)



Meter display parts



Meter display parts

Electric, electronic applications

With its light and beautiful clearness, surface appearance, excellent electrical insulation and workability, NF-2000 is widely utilized as a material suitable for electric and electronic devices or printed plates etc.



Display filter

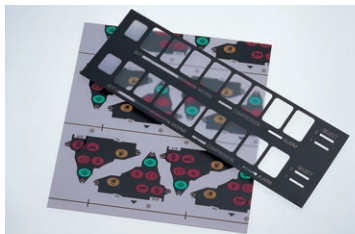


Nameplates (printed)

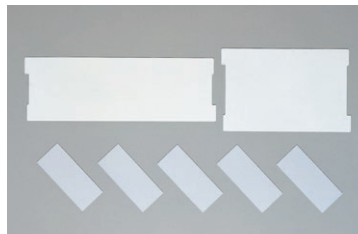
One-sided matte sheet

NF-2000M08

NF-2000M08 is polycarbonate matte sheet with matte finish on one side, which prevents scratches and other damage. NF-2000M08 can be adopted for printed plate applications and also be die-cut for machinery part applications.



Printed plates



Diffusion board



Printed plates

Optical data (Clear)

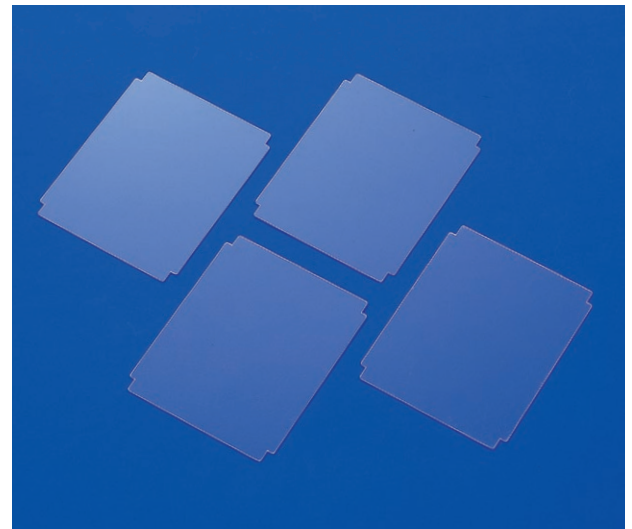
Test Item	Test Method	Value (%)
Light transmission	JIS K7361-1	88~95
Haze	JIS K7136	75~85

The above data are an example of actual measurement, not a guarantee for performance.

Anti-combustible sheet

NF-2000VUNS2

NF-2000VUNS2, with thickness 1.5mm, has the burning characteristics compliant with UL94V-2.



Polycarbonate Sheet

Grades of NF-2000 series

Product	Grade	Size (mm)	Thickness (mm)						
			0.3	0.4	0.5	0.7	0.8	1.0	1.5
General sheet Clear	NF-2000	800×2,000	○						
		915×1,830		○	○	○		○	
		1,000×2,000			○		○	○	
	NF-2000VUNS2 *1	1,000×2,000						○	
General sheet colored	NF-2000C *2	915×1,830			○		○		
		1,000×2,000					○		
	NF-2000VC (Black)	1,000×2,000						○	
One-sided matte sheet Clear	NF-2000M08	915×1,830			○		○		
		1,000×2,000					○		
Standard size packing unit (sheet)			25	20	20	10	10	10	5

○: Stock

*1 NF-2000VUNS2 contains ultraviolet absorber.

*2 For the tones, see color numbers in the sample book.

Please contact us about specially ordered sheets with different thickness, width or length.

Comparison of physical properties with various resin plates and inorganic glass

Test Item	Test Method	Unit	NF-2000	PMMA	PVC	FRP	GLASS
Density	ISO 1183 JIS K7112	g/cm ³	1.2	1.19	1.30~1.58	1.35~2.30	2.50
Tensile strength		MPa	58.6~68.6	49.0~68.6	41.1~52.0	103~206	34.3~83.3
		(kgf/cm ²)	(600~700)	(500~700)	(420~530)	(1050~2100)	(350~850)
Nominal strain at break	ISO 527-1,2 JIS K7161-1,2	%	60~120	2.0~7.0	40~80	0.5~5.0	—
Tensile modulus		GPa	2.1~2.5	2.5~3.0	2.5~5.5	5.5~13.7	—
		(10 ⁴ kgf/cm ²)	(2.1~2.5)	(2.5~3.1)	(2.5~5.6)	(5.6~14.0)	—
Compression strength	ISO 604 JIS K7181	MPa	73.5~88.2	75.2~127.4	54.9~89.2	102.9~205.9	882.5
		(kgf/cm ²)	(750~900)	(770~1300)	(560~910)	(1050~2100)	(9000)
Flexural strength		MPa	80.4~90.2	82.3~117.6	68.6~107.8	68.6~274.5	49.0
		(kgf/cm ²)	(920~980)	(840~1200)	(700~1100)	(700~2800)	(500)
Flexural modulus	ISO 178 JIS K7171	GPa	2.2	2.6~3.2	2.0~3.4	6.8~20.0	70.0
		(10 ⁴ kgf/cm ²)	(2.3)	(2.7~3.3)	(2.1~3.5)	(7.0~21.0)	(72)
Charpy impact strength (Notched)	ISO 179-1 JIS K7111-1	kJ/m ²	88	1.3	—	40~80	—
		(kgf·cm/cm ²)	(90)	(1.3)	—	(41~82)	—
Izod impact strength (Notched)	ISO 180 JIS K7110	J/m	740~980	16~22	22~1000	130~1000	—
		(kgf·cm/cm)	(75~100)	(1.6~2.2)	(2.2~104)	(13.5~104)	—
Hardness	ISO 2039-2 JIS K7202-2	—	M60~70	M80~100	65~85	50~80	—
			R122~124	—	(Shore)	(Baccol)	—
Specific heat	JIS K7123	kJ/kg·K	1.09~1.17	1.47	1.05~1.47	—	0.75
		(cal/g·°C)	(0.26~0.28)	(0.35)	(0.25~0.35)	—	(0.18)
Coefficient of Linear thermal expansion	JIS K7197	10 ⁻⁵ ·K ⁻¹	6~7	5~9	5~10	2~5	0.85
Heat distortion temperature (1.80MPa) (0.45MPa)	ISO 75-1,2 JIS K7191-1,2	°C	132~140	71~102	60~77	>200	—
		°C	145~155	74~113	57~82	—	—
Continuous usage temperature	—	°C	110	60~93	54~80	150~177	—
Bending ratio	ISO 489 JIS K7142	—	1.59	1.48~1.50	1.52~1.55	—	1.52
Light transmission	ISO 13468-1 JIS K7361-1	%	85~91	92	76~82	(Opaque)	Above90
Flammability Oxygen index	JIS K7201-2 ISO 4589-2	%	25	17	47	—	—

The physical properties in the table above are the representative values actually measured using our test method, and are not guaranteed values.

All physical values except those of Lupilon Sheet (NF-2000) are taken from the literature.