

Data Sheet

**High Speed, Low Loss Multi-layer Materials**

Low Dk glass cloth version

**MEGTRON6**

Laminate R-5775(N)  
Prepreg R-5670(N)

Apr. 2022 No.22040130

# Specification / Laminate R-5775(N)

Property		Units	Test Method	Condition	Typical Value	
THERMAL	Glass Transition Temp ( Tg )	C	DSC	As received	185	
			DMA	As received	210	
	Thermal Decomposition Temp ( Td )		C	TGA	As received	410
	Time to Delam ( T288 )	Without Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
		With Cu	Min	IPC TM-650 2.4.24.1	As received	> 120
	CTE : $\alpha 1$	X - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Y - axis	ppm / C	IPC TM-650 2.4.24	< Tg	14 - 16
		Z - axis	ppm / C	IPC TM-650 2.4.24	< Tg	45
CTE : $\alpha 2$	Z - axis	ppm / C	IPC TM-650 2.4.24	> Tg	260	
ELECTRICAL	Volume Resistivity		M $\Omega$ - cm	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 <sup>9</sup>
	Surface Resistivity		M $\Omega$	IPC TM-650 2.5.17.1	C-96/35/90	1 x 10 <sup>8</sup>
	Dielectric Constant ( Dk )	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	3.40
		@ 13GHz	-	*Note 1	C-24/23/50	3.34
	Dissipation Factor ( Df )	@ 1GHz	-	IPC TM-650 2.5.5.9	C-24/23/50	0.002
		@ 13GHz	-	*Note 1	C-24/23/50	0.0037
PHYSICAL	Water Absorption		%	IPC TM-650 2.6.2.1	D-24/23	0.14
	Peel Strength	1oz ( H-VLP )	kN / m	IPC TM-650 2.4.8	As received	0.8
	Flammability		-	UL	C-48/23/50	94V-0

Sample thickness : 29.5 mil = 0.750 mm ( Core Type 30 )

Note 1 : Balanced-type Circular Disk Resonance Method [ IEC 63185 (2020) ]

\* The data in the above table are not guaranteed values.

# Specification / Laminate R-5775(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [ IEC 63185 (2020) ]

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Dk					
	mil	mm				1 GHz	13 GHz	24 GHz	36 GHz	47 GHz	58 GHz
2	2.0	0.050	1035	1	67	3.25	3.19	3.19	3.19	3.19	3.19
2.6	2.6	0.065	1078	1	59	3.37	3.29	3.29	3.29	3.29	3.29
3	3.0	0.075	1078	1	65	3.28	3.22	3.22	3.22	3.22	3.22
3.5	3.5	0.090	1078	1	70	3.22	3.16	3.16	3.16	3.16	3.16
4	3.9	0.100	2013	1	56	3.40	3.34	3.34	3.34	3.34	3.34
4	3.9	0.100	1035	2	67	3.25	3.19	3.19	3.19	3.19	3.19
5	5.0	0.127	1078	2	59	3.37	3.29	3.29	3.29	3.29	3.29
5	4.9	0.125	2116	1	56	3.40	3.34	3.34	3.34	3.34	3.34
6	5.7	0.146	1078	2	65	3.28	3.22	3.22	3.22	3.22	3.22
7	7.0	0.178	1078	2	70	3.22	3.16	3.16	3.16	3.16	3.16
8	7.9	0.200	2013	2	56	3.40	3.34	3.34	3.34	3.34	3.34
10	9.8	0.250	2116	2	56	3.40	3.34	3.34	3.34	3.34	3.34
12	11.8	0.300	2013	3	56	3.40	3.34	3.34	3.34	3.34	3.34
16	15.7	0.400	2013	4	56	3.40	3.34	3.34	3.34	3.34	3.34
20	19.7	0.500	2116	4	56	3.40	3.34	3.34	3.34	3.34	3.34
25	24.6	0.625	2116	5	56	3.40	3.34	3.34	3.34	3.34	3.34
30	29.5	0.750	2116	6	56	3.40	3.34	3.34	3.34	3.34	3.34

\* The data in the above table are not guaranteed values.

# Specification / Laminate R-5775(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [ IEC 63185 (2020) ]

Core Type	Actual Thickness		Cloth Style	ply	Typical Resin Content (%)	Typical Df					
	mil	mm				1 GHz	13 GHz	24 GHz	36 GHz	47 GHz	58 GHz
2	2.0	0.050	1035	1	67	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
2.6	2.6	0.065	1078	1	59	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
3	3.0	0.075	1078	1	65	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
3.5	3.5	0.090	1078	1	70	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
4	3.9	0.100	2013	1	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
4	3.9	0.100	1035	2	67	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
5	5.0	0.127	1078	2	59	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
5	4.9	0.125	2116	1	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
6	5.7	0.146	1078	2	65	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
7	7.0	0.178	1078	2	70	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
8	7.9	0.200	2013	2	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
10	9.8	0.250	2116	2	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
12	11.8	0.300	2013	3	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
16	15.7	0.400	2013	4	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
20	19.7	0.500	2116	4	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
25	24.6	0.625	2116	5	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
30	29.5	0.750	2116	6	56	0.002	0.0037	0.0040	0.0042	0.0044	0.0046

\* The data in the above table are not guaranteed values.

# Specification / Prepreg R-5670(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [ IEC 63185 (2020) ]

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Dk					
			1 GHz	13 GHz	24 GHz	36 GHz	47 GHz	58 GHz
1035	72	60	3.20	3.13	3.13	3.13	3.13	3.13
	75	68	3.16	3.10	3.10	3.10	3.10	3.10
	77	74	3.13	3.08	3.08	3.08	3.08	3.08
1078	66	77	3.26	3.20	3.20	3.20	3.20	3.20
	70	89	3.22	3.16	3.16	3.16	3.16	3.16
	74	104	3.17	3.11	3.11	3.11	3.11	3.11
	77	118	3.13	3.08	3.08	3.08	3.08	3.08
2013	56	98	3.40	3.34	3.34	3.34	3.34	3.34
	59	106	3.37	3.29	3.29	3.29	3.29	3.29
2116	56	125	3.40	3.34	3.34	3.34	3.34	3.34
	58	132	3.37	3.31	3.31	3.31	3.31	3.31

\* The data in the above table are not guaranteed values.

# Specification / Prepreg R-5670(N)

1GHz ; IPC TM650-2.5.5.9

13-58GHz ; Balanced-type Circular Disk Resonance Method [ IEC 63185 (2020) ]

Cloth Style	Resin Content (%)	Typical Thickness (um)	Typical Df					
			1 GHz	13 GHz	24 GHz	36 GHz	47 GHz	58 GHz
1035	72	60	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
	75	68	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
	77	74	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
1078	66	77	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
	70	89	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
	74	104	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
	77	118	0.002	0.0037	0.0040	0.0043	0.0044	0.0046
2013	56	98	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
	59	106	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
2116	56	125	0.002	0.0037	0.0040	0.0042	0.0044	0.0046
	58	132	0.002	0.0037	0.0040	0.0042	0.0044	0.0046

\* The data in the above table are not guaranteed values.

## ++ Before purchase ++

### 【Notes before you use】

- Please verify the suitability and fitness for intended application by quality testing, evaluation or other means at your own option before any adoption, use or change of use conditions of a product listed in the datasheet.
- We would like to have a delivery specifications mutually agreed for the product that you have decided to use. The agreements defined in the delivery specifications are assigned higher priority.
- Please note that images shown may somewhat differ from the actual product in color.
- Please note that specifications and external design are subject to change for product improvement without notice.
- For details on products in the datasheet, please contact your distributor or our sales department.

### 【Safety Information】

- Before using the product, please read the delivery specifications carefully or contact the distributor from which you purchased the product or our sales department in order to use the product correctly.
- The products in the datasheet are Electronic circuit board materials for electronic and electrical devices. Please do not use them for other than specified use.

### Please Contact us of more

#### 【Technical Marketing】

- Japan (Osaka) TEL: 81-6-6904-2771
- USA (Mountain view) TEL: 1-408-861-3946
- Austria (Enns) TEL: 43-7223-883
- China (Guangzhou) TEL: 86-20-8713-0888

#### 【Sales Offices】

- China (Hong Kong) TEL: 852-2529-3956
- China (Suzhou) TEL: 86-512-6825-1565
- China (Guangzhou) TEL: 86-20-8713-0888
- Korea (Seoul) TEL: 82-2-361-7873
- Taiwan (Hsinchu) TEL: 886-3-598-3201
- Thailand (Ayuthaya) TEL: 66-3533-0846
- Austria (Enns) TEL: 43-7223-883
- USA (Mountain view) TEL: 1-408-861-3946
- Japan (Osaka) TEL: 81-6-6904-2771

Panasonic Industry Co., Ltd.  
 Electronic Materials Business Division  
 Circuit Board Materials Business Unit.  
 Head Office: 1006 Kadoma, Kadoma City, Osaka 571-8506  
 TEL: 81-6-6908-1101  
[industrial.panasonic.com/ww/electronic-materials](http://industrial.panasonic.com/ww/electronic-materials)