



# **UL Product iQ**

UL'S NEXT GENERATION CERTIFICATIONS SEARCH The same trusted data in a modern search engine. AVAILABLE

LEARN MORE

# QMTS2.E134893

Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

For enhanced search functionality, please visit UL's  $\underline{iQ^{TM}}$  Family of Databases. Click on a product designation for complete information.

Page Bottom

# Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component

<u>See General Information for Polymeric Materials - Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use in Fabricating Recognized Printed Wiring Boards - Component</u>

#### **GOLDENMAX INTERNATIONAL TECHNOLOGY (HANGZHOU) LTD**

E134893

No 188 Dakang Rd Lin'an Qingshanlake Subdistrict Hangzhou, Zhejiang 311305 CHINA

#### **Industrial laminates:**

			Build up		R.T.I.				н				
Mtl Dsg	ANSI Type	Color	Min Thk (mm)	Flame Class	Elec (°C)	Mech (°C)	H W I	H A I	V T R	C T I	Meets 746E Non-HAL	Meets 746E DSR	
Industrial laminates, furnished as sheets, rods or tubes.													
DL-C3	CEM-3	NC (WT)	0.63	V <b>-</b> 0	130	140	0	) 2 4		-	Yes		
			1.6	V <b>-</b> 0	130	140	0	2	4	3	-	Yes	
ILM-R1##	FR-4.0	NC,YL	0.38	V <b>-</b> 0	130	130	0	3	4	-	-	Yes	
			0.63	V <b>-</b> 0	130	140	0	3	4	-	-	Yes	
			1.40	V <b>-</b> 0	130	140	0	2	4	3	-	Yes	
Industrial laminates.													
GF11/T600	FR-4.0	NC	0.63	V <b>-</b> 0	130	140	0	3	_	-	-	Yes	
			1.4	V <b>-</b> 0	130	140	0	2	-	0	-	Yes	
GF11_T6	No ANSI	NC (YL)	0.63	V <b>-</b> 0	90	90	-	-	-	-	-	-	
			1.40	V <b>-</b> 0	90	90	-	-	-	0	-	-	

#### **Metal base industrial laminates:**

		Metal	Diele	Dielectric		R.			н				
Mtl Dsg	Color	Min Thk (mm)	Min Thk (mic)	Max Thk (mic)	Flame Class	Elec (°C)	Mech (°C)	H W I	H A I	V T R	C T I	Meets 746E Non-HAL	Meets 746E DSR
Aluminum base with Epoxy (EP) dielectric, industrial laminates, furnished as sheets.													
GL12,GL22,GL-P1@													
	NC	0.3	100	230	V-0	90	90	0	0	-	0	_	Yes

# Ultrathin build ups:

	Bui	ld Up			Lan	ninate		Prepreg				
Mtl Dsg	ANSI Type	Min Thk (mm)	TI Elec	TI Mech	Mtl Dsg	Thk (mic)	TI Elec	Mtl Dsg				
Ultrathin industrial laminates and bonding layers, furnished in sheet form, for use in multilayer printed wiring boards where the thickness is built up to the minimum specified.												
ILM-U1##	FR-4.0	0.38	130	130	ILM-U1##	100	120	ILM <b>-</b> P1##	100	120		
		0.63	130	140	ILM-U1##	100	120	ILM-P1##	100	120		

# **Metal clad industrial laminates:**

		I		ı	1			1					
				Bld up	Clad Cond Thk		Max		Max	Solde	er Lts		
Metal Clad Dsg	Lam- inate Dsg	Pre- preg Dsg	ANSI Type	Min Thk (mm)	Min Ext (mic)	Max Ext (mic)	Max Int (mic)	Area Dia (mm)	Flame Class	Oper Temp (°C)	Temp (°C)	Time (sec)	
	Metal clad multilayer package (mass laminate) with internal circuitry and solid copper on outside surfaces, furnished as sheets.												
ILM-M	ILM-ML1##												
	ILM-U1##	ILM- P1##	FR- 4.0	0.38	17	102	68	50.8	V <b>-</b> 0	130	288	20	
	Metal clad industrial laminates for use in multilayer printed wiring boards with copper on one or both sides, furnished as sheets.												
ILM-U	1##												
	ILM <b>-</b> U1##	ILM- P1##	FR- 4.0	0.38	17	102	68	50.8	V <b>-</b> 0	130	288	20	
	clad industri ides, furnish			or use in	single	layer pı	inted w	viring bo	ards wi	th copp	er on o	ne or	
DL- C3	DL-C3	-	CEM- 3	0.63	17	102	-	12.7	V <b>-</b> 0	130	288	10	
GF11/	T600												
	GF11/T600	-	FR- 4.0	0.63	17	102	_	50.8	V <b>-</b> 0	130	288	10	
ILM-R	1##	-		-		-							
	ILM-R1##	-	FR- 4.0	0.38	17	102	-	50.8	V <b>-</b> 0	130	288	20	

### Metal clad metal base industrial laminates:

			Metal	Diele	ectric	Cla	d Cond	Thk	Max		Max	Solde	er Lts
Metal Clad Dsg	Lam- inate Dsg	Pre- preg Dsg	Min Thk (mm)	Min Thk (mic)	Max Thk (mic)	Min Ext (mic)	Max Ext (mic)	Max Int (mic)	Area Dia (mm)	Flame Class	Oper Temp (°C)	Temp (°C)	Time (sec)
•	Aluminum base with Epoxy (EP) dielectric, Metal clad industrial laminates with copper on one side only, furnished as sheets.												
GL12,	GL12,GL22,GL-P1@												
	GL12,GL22,GL- P1@	-	0.3	100	230	18	102	-	50.8	V <b>-</b> 0	90	288	120

<sup>##</sup> - May be followed by a suffix.

<sup>@ -</sup> May be shipped as a B-stage insulation sheet without being adhered to a metal substrate. PWB manufacturer must adhere to aluminum metal base as specified above, within thickness range Recognized.

wrapper.



Last Updated on 2018-01-17

**Questions?** Print this page Terms of Use Page Top

© 2018 UL LLC

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2018 UL LLC".