

TECHNICAL DATA SHEET

FR-4 EPOXY FIBERGLASS LAMINATES

EFFECTIVE DATE 发布日期	March 8, 2020	
REVISED DATE 修改日期	August 11, 2021	
TRADE NAME 产品名称	NEMA GRADE FR-4 / EPGC 202 / HGW 2372.1	
COMPLY WITH STANDARD 符合标准	IEC 60893-3:2003 / GB/T 1303.4-2009	
SECTION I - MISC CHARACTERISTICS		
第1部分-主要特点		
DENSITY 密度	g/cm3	1.98-2.08
FLAMMABILITY 燃烧性	UL94	V0
WATER ABSORPTION (5MM) 吸水性	%	≤ 0.15
CHEMICAL FAMILY 化学品类	Resin	Epoxy
REINFORCEMENT TYPE 增强材料	Glass Fabrics	7628
THERMAL CHARACTERISTICS		
耐热性能		
Colour 颜色	Green (Nature), Yellow	
SECTION II - MECHANICAL CHARACTERISTICS		
第2部分-机械性能		
BENDING STRENGTH 垂直弯曲强度	MPa	≥ 400
TENSILE STRENGTH 抗拉强度	MPa	≥ 300
COMPRESSIVE STRENGTH ⊥ 压缩强度	MPa	≥ 350
MODULUS OF ELASTICITY 弹性模量	MPa	≥ 24000
IMPACT STRENGTH // 平行层向冲击强度	kJ/m2	≥ 33
SECTION III- ELECTRICAL DATA		
第3部分-电气性能		
ELECTRICAL STRENGTH ⊥ 垂直层向电气强度	kV/mm, Thickness<3MM	≥ 10.2
ELECTRICAL STRENGTH // 平行层向电气强度	kV	≥35
TRACKING RESISTANCE 耐电痕指数	PTI	≥ 200



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SECTION IV - HAZARDOUS INGREDIENTS

第4部分-有害物质成分

HAZARDOUS COMPONENTS
有害物质

No OSHA Hazardous Ingredients

SECTION V - REACTIVITY DATA

第5部分-反应相关数据

CHEMICAL STABILITY

化学稳定性

Stable under normal conditions.

正常情况下稳定

CONDITIONS TO AVOID

使用条件

Avoid heating long time above 130°C

加热长期超过130度

INCOMPATIBLE MATERIALS

不相容物质

Exposure to strong acids or bases will cause damage

接触强酸或强碱会造成损坏

HAZARDOUS POLYMERIZATIONS

危险的聚合

Will not occur

不会发生

STORAGE AND USE EFFECTS

储存与使用影响

Conventional performance remains stable within 1 year.

Long-term exposure to sunlight and high humidity will cause discoloration and performance degradation.

性能在1年内保持稳定，长期暴露在阳光下，和高湿环境中，会引起变色及性能的降低

SECTION VI - PRECAUTION

第6部分-注意事项

OVER EXPOSURE EFFECTS

过量暴露危害

Dust from machining products can irritate to eyes, nose, throat and lungs. Prolonged inhalation of dust can produce lung disease. 加工中会产生粉尘会刺激眼睛、鼻子、喉咙和肺。长期吸入粉尘可致肺疾病。

SECTION VII- TOLERANCE

第7部分-公差

Thickness in Length & Width is within 5 MM

THICKNESS (MM)

TOLERANCE (MM)

THICKNESS (MM)

TOLERANCE (MM)

0.5 - 0.8

±0.05

6.0 - 8.0

±0.35

1.0 - 1.8

±0.10

10.0 - 15.0

±0.60

2.0 - 2.8

±0.15

16.0 - 20.0

±0.85

3.0 - 5.0

±0.20

21.0 - 50.0

±1.60

Notes:

备注:

All information recommendations and suggestions appearing herein concerning this product are average values ascertained at room temperature by regularly statistic analyses, it is provided purely for information and shall not be regarded as binding unless expressly agreed in a contract of sales. The values here are not legally binding or fully comply with standards so that we cannot accept any responsibility for the accuracy. In addition, the data mentioned in above table are average values ascertained by current statistical returns and tests.

此处出现的有关此产品的所有信息推荐和建议均基于室温下常规静态测试分析获得的数据，它仅是提供数据，除非在销售合同中另有明确协议，才具有约束力。以上数据并非完全与标准一致。

REFERENCES:

P=PASS, N/P= Not Pass, N/A = Not Applicable, N/D = Not Determined, N.D.A. = No Date Available

