

**F-6975**  
**<Heat-resistance test>****TECHNICAL  
INFORMATION**No.D-TI-000F6975-102  
2021.05.11  
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In the heat resistance test according to the prescribed conditions, deterioration of coating, tensile strength, Electric strength are confirmed.

**2. Test****① Heat-resistance test condition**

Exposing temperature : 200、220、240°C

Exposing time : 0、250、500、1000 hr

**② Test piece****A Degradation of coating**Coating work : 60 × 60 × 3<sup>t</sup>mm mild steel plates、Coating thickness 0.5 ± 0.1mm、n=3

Curing condition : Preheat 190°C × 40 min. or more、Curing 190°C × 20 min.

**B Tensile strength**Test piece : 100 × 15 × 1<sup>t</sup>mm mild steel plates、Lap Wide 10mm、

Junction welding pressure 9.8N/15 × 10mm、n=3

Curing condition : Preheat 190°C × 40 min. or more、Curing 190°C × 20 min.

**C Dielectric breakdown strength**Coating work : 60 × 60 × 3<sup>t</sup>mm mild steel plates、Coating thickness 0.5 ± 0.1mm、n=3

Curing condition : Preheat 190°C × 40 min. or more、Curing 190°C × 20 min.

**③ Evaluation****A Degradation of coating :**

Appearance observation、Color change、Presence or absence of cracks

**B Tensile strength :** JIS K 6850 Confirm to Adhesives—Determination of tensile lap-shear strength of rigid-to-rigid bonded assemblies

Tension speed 10 mm/min

**C Dielectric breakdown strength :** JIS C 2161 Confirm to Test methods of coating powders for electrical insulation

Booster speed 1kV/sec.、Breaking current 10mA



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3. Result

A Degradation of coating

•Although discoloration was confirmed in F-6975, there was no crack generation.

Sample Exposing temp. Exposing time	F-6975		
	200°C	220°C	240°C
0 hr			
Color change	-	-	-
Crack	-	-	-
250 hr			
Color change	Grey → Brown	Grey → Dark brown	Grey → Dark brown
Crack (Piece) <sup>※</sup>	0/3	0/3	0/3
500hr			
Color change	Grey → Reddish brown	Grey → Dark brown	Grey → Dark brown
Crack (Piece) <sup>※</sup>	0/3	0/3	0/3
1000 hr			
Color change	Grey → Dark brown	Grey → Dark brown	Grey → Dark brown
Crack (Piece) <sup>※</sup>	0/3	0/3	0/3

※ … Number of crack initiation/ Number of test piece



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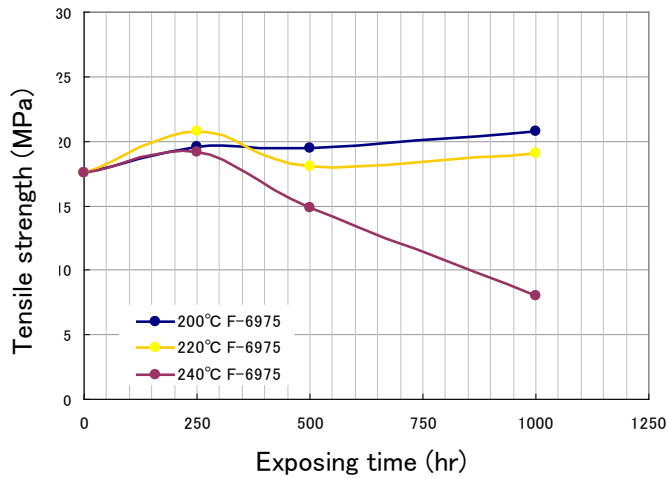
### B Tensile strength

•Condition of peeling

F-6975 … Interfacial peeling

Sample Exposing temp.  Exposing time	Tensile strength (MPa)		
	F-6975		
	200°C	220°C	240°C
0 hr	17.6	17.6	17.6
250 hr	19.6	20.8	19.2
500 hr	19.5	18.1	14.8
1000 hr	20.8	19.1	8.0

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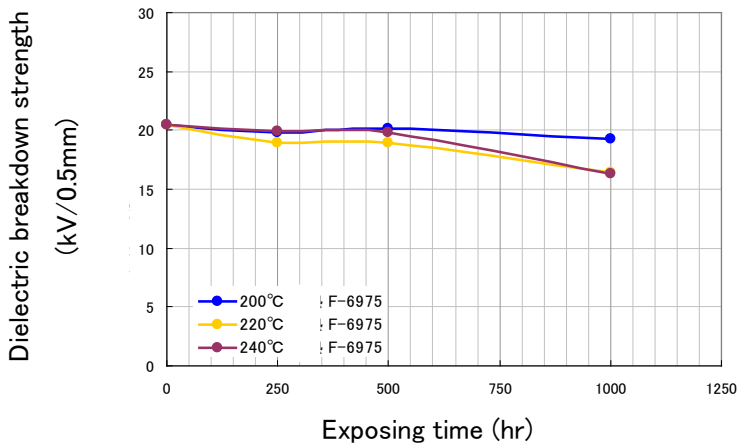
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C. Dielectric breakdown strength

Sample Exposing temp.	Dielectric breakdown strength (kV/0.5mm)		
	F-6975		
Exposing time	200°C	220°C	240°C
0 hr	20.5	20.5	20.5
250 hr	19.8	18.9	19.9
500 hr	20.2	18.9	19.8
1000 hr	19.3	16.4	16.3

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The values above are not intended for specification purposes.