

SPECIFICATION

For

heat shrinkable, flexible chlorinated
polyolefin (Shrinkage 2:1) tubing used for 121℃.

Type designation : LG-CRFR

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1. Scope

This specification covers the requirements for heat shrinkable, flexible chlorinated polyolefin (Shrinkage 2:1) tubing used for 121°C.

(Type designation : LG-CRFR)

2. Reference Standard

The following documents form a part of this specification to the extent specified herein.

AMS-DTL-23053/1 Class1 & 2 (MIL-DTL-23053/1C)

: Insulation Sleeving, Electrical, Heat shrinkable, Crosslinked Chlorinated Polyolefin, Flexible.

3. Production Specification

The insulation shall be an irradiated cross-linked Chlorinated polyolefin complying with MIL specification. Expanded inside diameter and recovered thickness shall be in the attached table

1. The standard color of insulation is Black.

4. Applied Recipe

The used material of insulation is in the attached table 2.

5. Performance

The following item shall be carried out in accordance with AMS-DTL-23053/1 specification.

Test Item		Characteristics	Test condition
Expanded inside diameter		Table1.(Attached table 1)	-
Recovered inside diameter		Table1.(Attached table 1)	-
Recovered thickness at any point		Table1.(Attached table 1)	-
Unaged	Tensile strength	Min. 1.05 kgf/mm ²	ASTM D 412 175°C/10 min @ 200% elongation ASTM D 2671
	Elongation	Min. 225%	
	200% Tensile stress	Max. 1.05 kgf/mm ²	
	Dielectric strength	Min. 11.8kV/mm(wall thic. Max. 1.8mm) Min. 7.8kV/mm(wall thic. Min. 1.81mm)	
Aged	Tensile strength	Min. 0.85 kgf/mm ²	ASTM D 412 121°C/168 hrs ASTM D 2671
	Elongation	Min. 175 %	
	Dielectric strength	Min. 11.8kV/mm	
Heat shock		No crack	200°C/4 hrs
Low temperature flex		No crack	-70°C/4 hrs
Restricted shrinkage		No crack	135°C
Voltage withstand		Pass	2,000V/min
Copper corrosion		No pitting or corrosion	150°C/16 hrs

Volume resistivity	Min. $1.0 \times 10^{11} \Omega\text{-cm}$	ASTM D 876
Water absorption	Max. 1.0% @ 23°C/24 hrs	ASTM D 570
Fluid resistance *Refer to below test fluid	Tensile strength	Min. 0.70 kgf/mm ²
	Elongation	Min. 175%
	Dielectric strength	Min. 9.8kv/mm
Fungus resistance	No growth	ASTM G 21
Flammability	Self extinguishing 15seconds ; 3inches	ASTM D 2671 Procedure A

※ Test fluid

Fluid	Conforming to
Hydraulic fluid petroleum base JP-8 Lubricating oil Lubricating oil 5 percent NaCl Deicing fluid	MIL-H-5606 MIL-T-5624 MIL-L-7808 MIL-L-23699 A-A-694 MIL-A-8243

Restricted Hazardous Substances	Characteristics	Test Method
Pb	Max. 100	EPA 3050B or EN1122, ICP-AES
Cd	Max. 5	EPA 3050B, ICP-AES
Hg	Not detected	EPA 3052, ICP-AES
Cr6+		EPA 3060A
PBBs		With reference to 83/264/EEC and 2003/11/EEC. GC/MS
PBDEs		

6. Storage condition :

Keep cool. Don't expose tubes to the direct rays of sun to prevent natural shrinkage and don't keep this package over 8 hours at temperature exceeding 40°C(104F)

Attached Table 1.

Standard Size (Inch size)	Expanded	Recovered		Standard Length [m]
	Min. Inside Diameter [mm]	Max. Inside Diameter [mm]	Min. Thick. At any point [mm]	
* 1/8	3.20	1.60	0.70	200
* 3/16	4.80	2.40	0.75	100
1/4	6.35	3.63	0.64	100
3/8	9.53	5.36	0.76	50
1/2	12.70	7.26	0.83	50
5/8	15.88	9.07	0.94	50
3/4	19.05	10.87	1.06	50
7/8	22.23	12.70	1.14	50
1	25.40	14.48	1.26	50
1-1/4	31.75	18.14	1.69	31
1.5	38.10	21.77	1.90	31
2	50.80	29.0	2.29	31

* : Customized size, which is not in SAE-AMS-DTL 23053/1 Specification.