

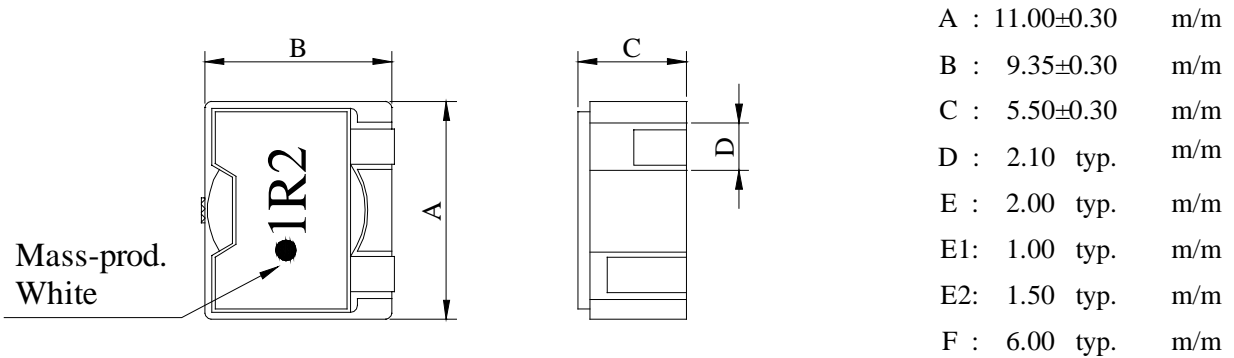
SPECIFICATION FOR APPROVAL

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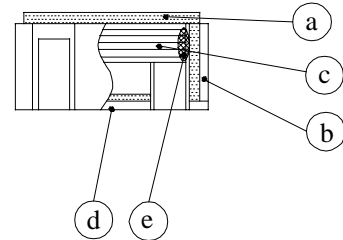
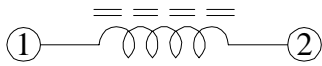
PAGE: 1

PROD. NAME	SHIELDED SMD POWER INDUCTOR	ABC'S DWG No.	SP1055□□□□3□
		ABC'S ITEM No.	

I . MECHANICAL DIMENSIONS :



II . SCHEMATIC DIAGRAM :



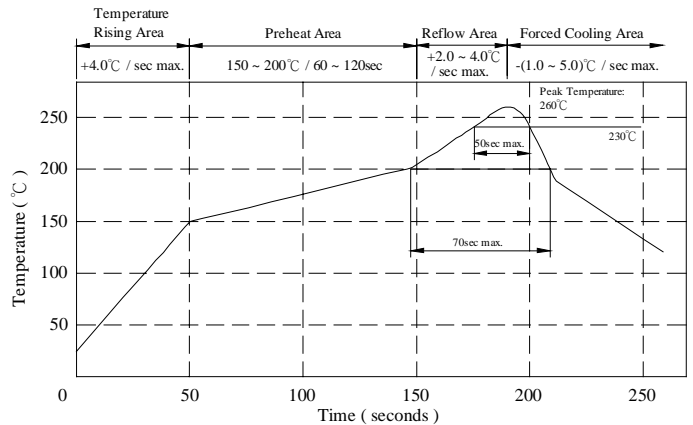
III . MATERIALS LIST :

- a . Core : Ferrite ER core
- b . Base : UL 94V-0
- c . Wire : Ultra-fine rectangular
Enamelled copper wire
- d . Clip : Cu / Ni / Sn
- e . Adhesive : Epoxy resin
- f . Remark : Lead content 200ppm max.
include ferrite

Peak Temp : 260°C max.
Max time above 230°C : 50sec max.
Max time above 200°C : 70sec max.

IV . GENERAL SPECIFICATION :

- a . Storage temp. : -55°C ~ +135°C
- b . Operating temp. : -55°C ~ +135°C
(Temp. rise included)
- c . Resistance to solder heat : 260°C. 10 secs.



AE-001A

SPECIFICATION FOR APPROVAL

REF :

PAGE: 2

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V . ELECTRICAL CHARACTERISTICS :

DWG No.	Inductance L (μ H)	I _{pk} (A) max.	I _{sat} (A)	I _{rms} (A)	RDC (mΩ)	
					max.	typ.
SP1055R15Y3□	0.15 ± 30 %	62.0	38.0	24.0	1.7	1.3
SP1055R30M3□	0.30 ± 20 %	42.0	32.0	20.0	2.5	1.9
SP1055R50M3□	0.50 ± 20 %	32.0	25.0	16.0	3.2	2.4
SP1055R80M3□	0.80 ± 20 %	25.0	18.0	11.0	5.8	4.7
SP10551R2M3□	1.20 ± 20 %	20.0	16.0	10.0	7.2	5.6
SP10551R5M3□	1.50 ± 20 %	17.0	14.0	9.0	8.5	6.5
SP10552R0M3□	2.00 ± 20 %	14.0	11.0	7.6	13.2	10.7
SP10552R5M3□	2.50 ± 20 %	12.0	9.5	6.8	15.5	11.9
SP10553R0M3□	3.00 ± 20 %	10.5	8.2	6.0	17.2	13.2

- 1). □ : Packaging information ... **A** Bulk **B** Taping Reel
- 2). Measured frequency of inductance is 100 KHz / 1V
- 3). I_{pk} base on inductance drop 25% typ. of L value at 20°C
- 4). I_{sat} base on inductance drop 10% typ. of L value at 20°C
- 5). I_{rms} base on temp. rise 40°C max.

AE-001A



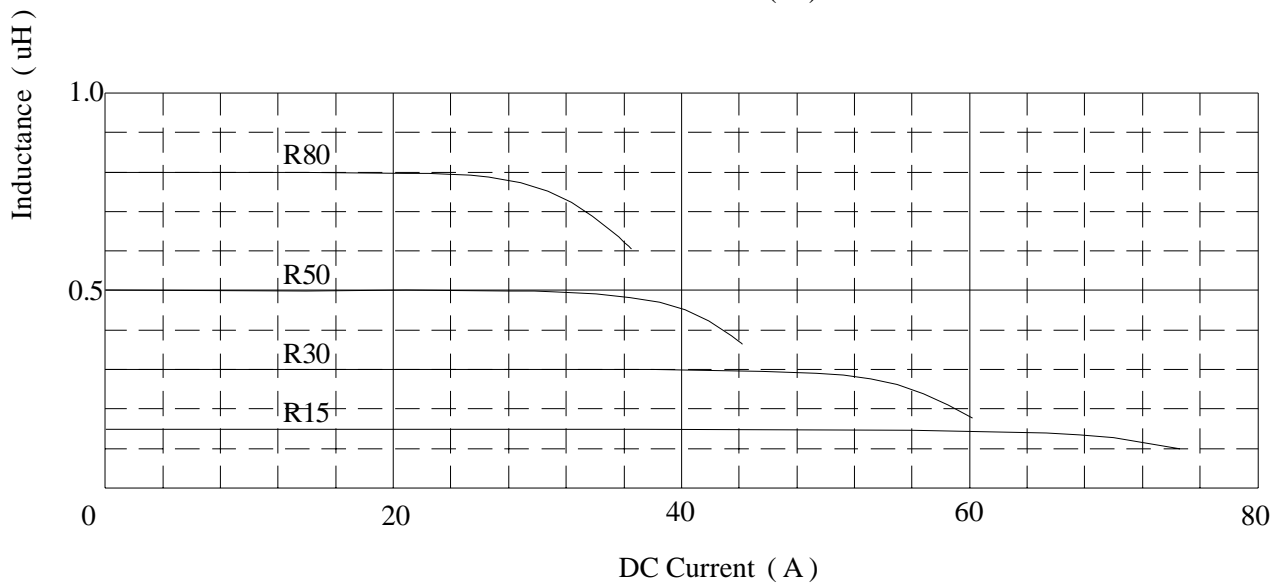
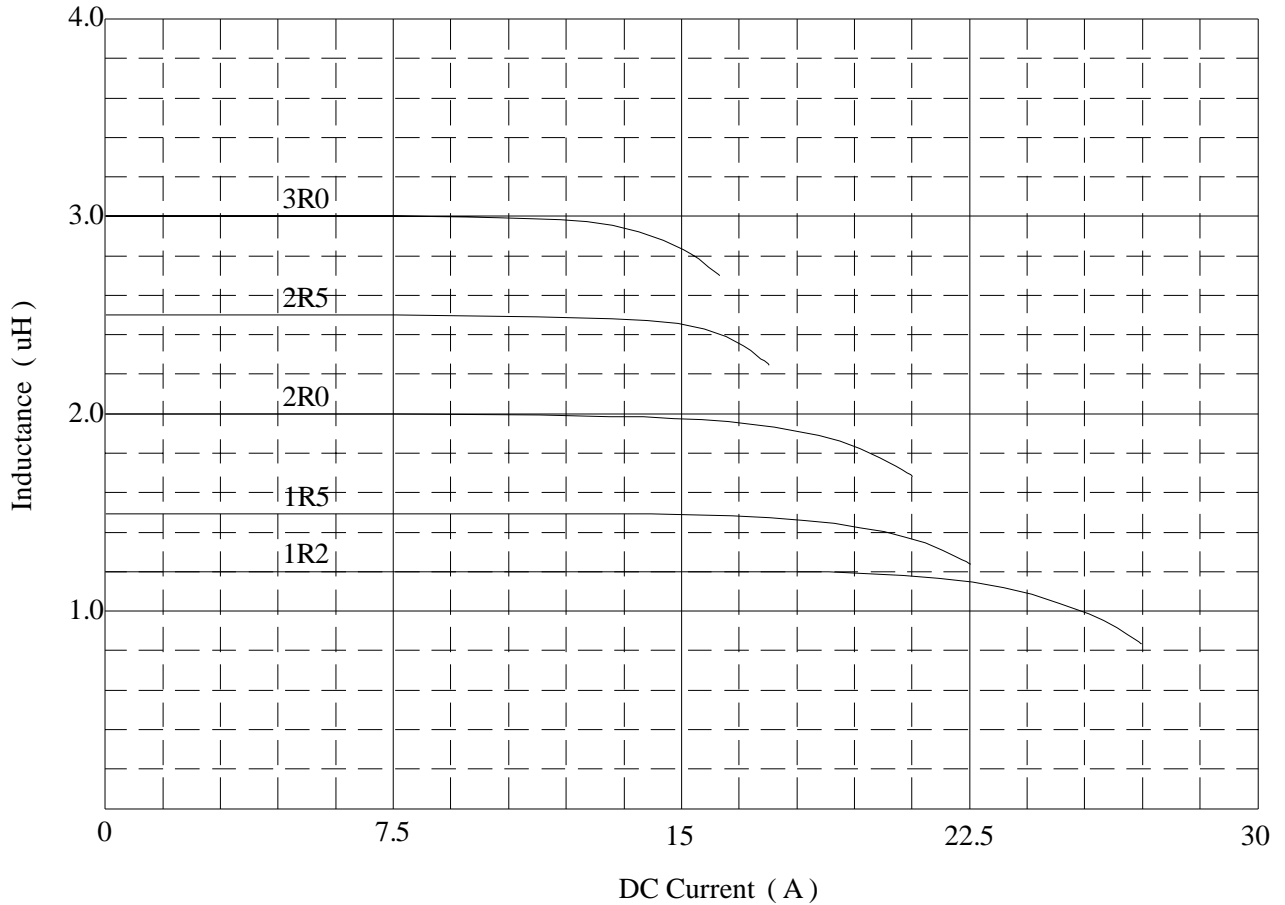
SPECIFICATION FOR APPROVAL

REF :

PAGE: 3

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@ Inductance VS. DC Superposition characteristics



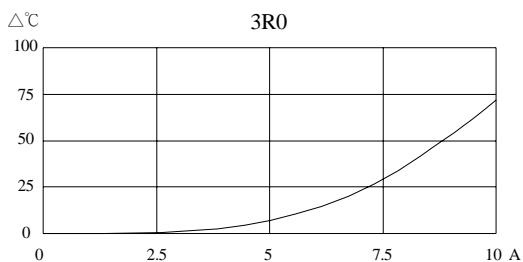
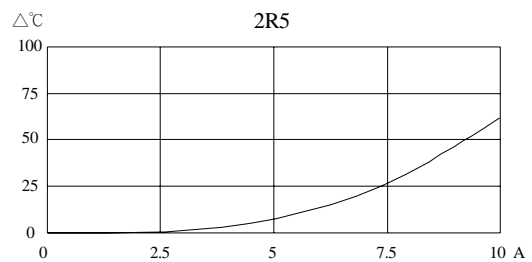
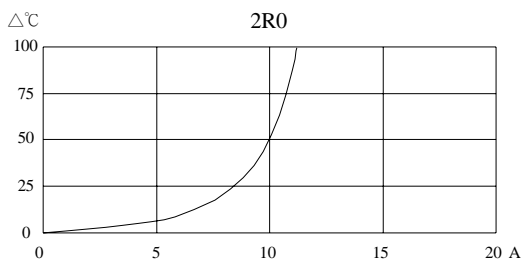
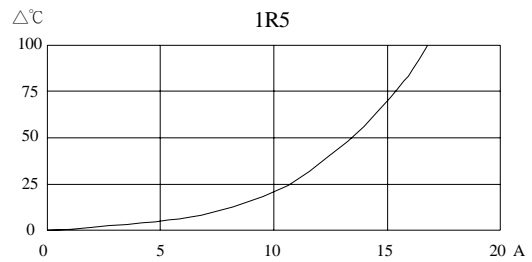
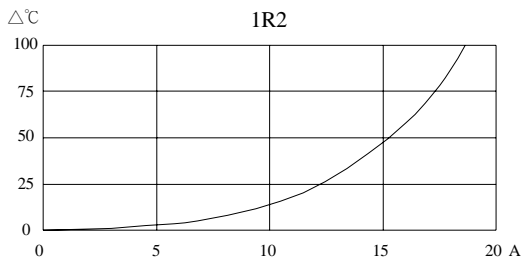
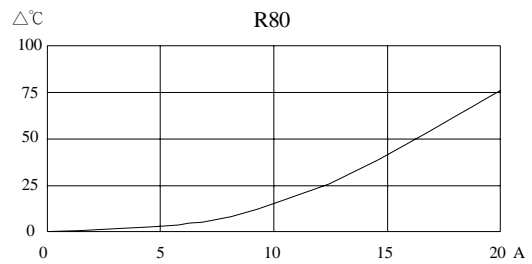
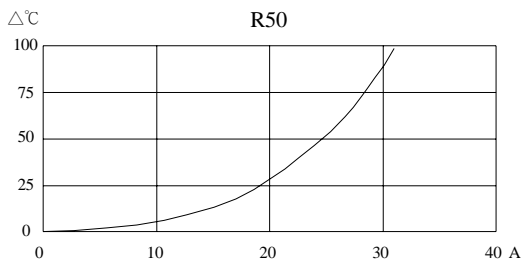
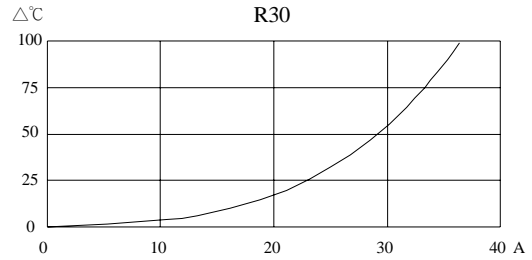
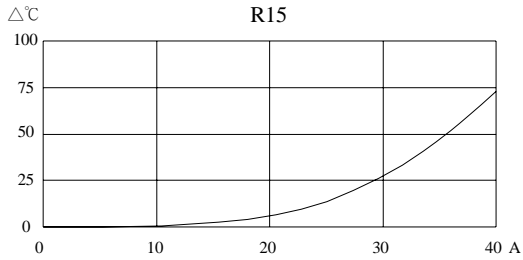
SPECIFICATION FOR APPROVAL

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PAGE: 4

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@ DC Current VS Temperature Rise



SPECIFICATION FOR APPROVAL

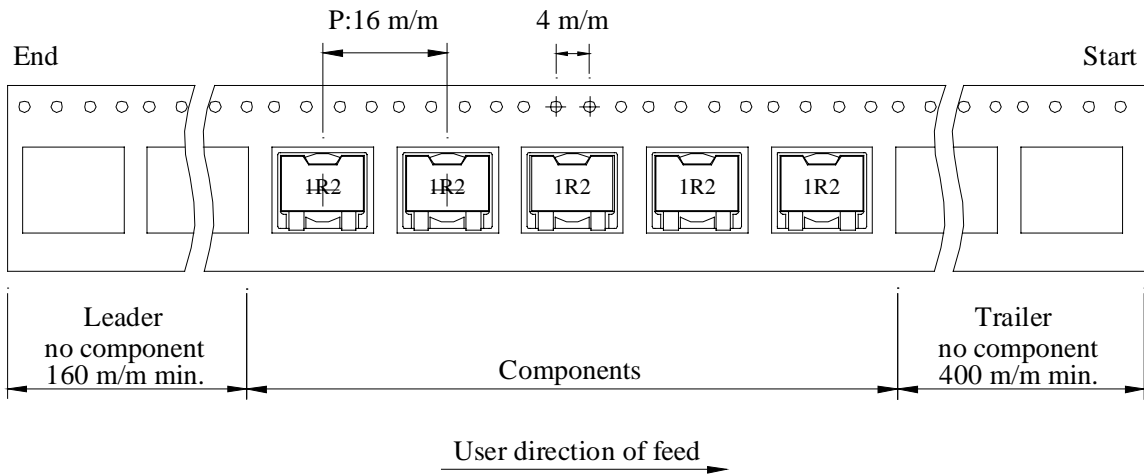
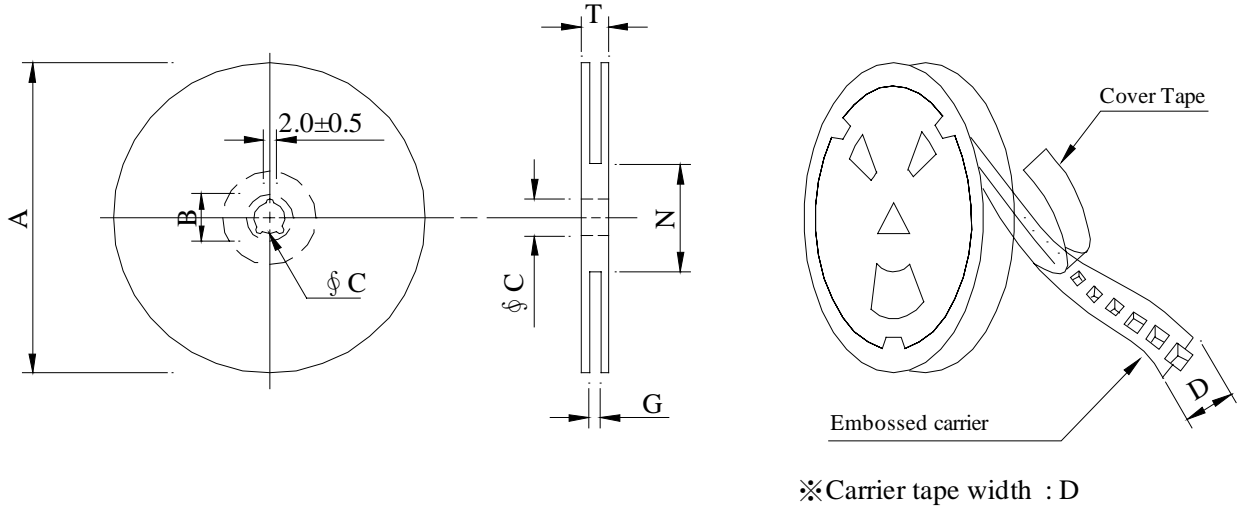
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PAGE: 5

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VII . PACKAGING INFORMATION :

(1) Configuration



(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
13 - 24	330	21±0.8	13±0.5	24	26 ⁺⁰	50 ⁻⁰	30.4

(3) Q'TY & G.W. Per package

Series	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
SP1055	600	700	13 - 24	2,400	6.50	40 x 40 x 24

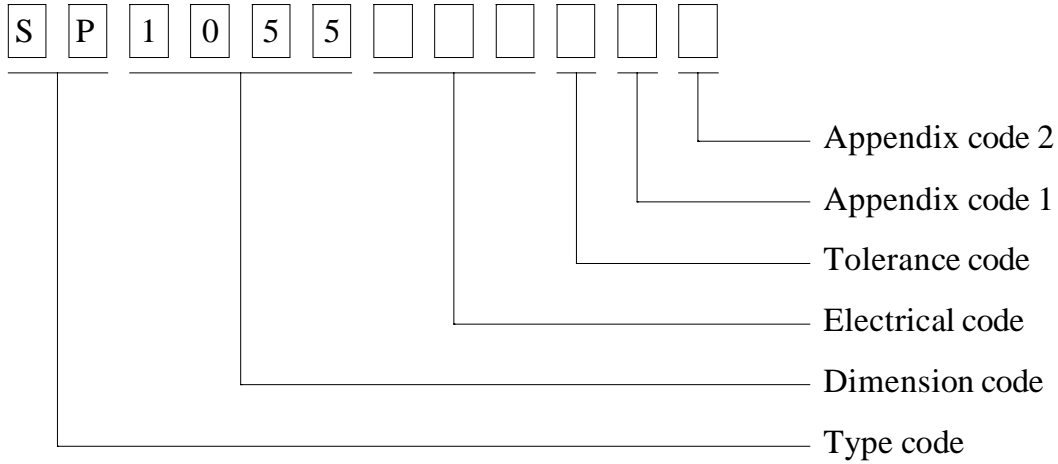
SPECIFICATION FOR APPROVAL

REF :

PAGE: 6

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VII . DWG EXPRESSION :



- Appendix code 1 : S : Standard products
 A~K , M~R , T~Z : Special products
 L : Standard Lead Free products
 1 ~ 9 : Special Lead Free products

Appendix code 2 :

Code	Inner package	Inner package Q'TY	Remark
A	Empty	Empty	
B	T / R (Reel package)	600 pcs	

SPECIFICATION FOR APPROVAL

REF :

PAGE: 7

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VIII . RELIABILITY TEST :

Test item	Specification	Test condition						
Solderability	More than 90% of the terminal electrode shall be covered With fresh solder.	Preheat : 150± 25°C for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 250± 5°C Flux : Rosin Dip time : 4±1 seconds						
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±20%	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Room temp. 15 minutes</td> <td style="text-align: center;">—————▶</td> <td style="text-align: center;"><u>-25± 2 °C</u> 30 minutes</td> </tr> <tr> <td style="text-align: center;">Room temp. 15 minutes</td> <td style="text-align: center;">—————▶</td> <td style="text-align: center;"><u>85± 2 °C</u> 30 minutes</td> </tr> </table> <p>Total : 50 cycles</p>	Room temp. 15 minutes	—————▶	<u>-25± 2 °C</u> 30 minutes	Room temp. 15 minutes	—————▶	<u>85± 2 °C</u> 30 minutes
Room temp. 15 minutes		—————▶	<u>-25± 2 °C</u> 30 minutes					
Room temp. 15 minutes		—————▶	<u>85± 2 °C</u> 30 minutes					
Humidity Resistance test		Temperature : 40± 2°C Humidity : 90 ~ 95% Applied current : Per spec. Time : 500 hours						
High temp. Resistance test	Temperature : 85± 2°C Applied current : Per spec. Time : 500 hours							

SPECIFICATION FOR APPROVAL

REF :

PAGE: 8

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IX . UL CARD :

OBMW2 January 7, 1988

Component-Magnet Wire E104048 (S)

MITSUBISHI CABLE INDUSTRIES LTD
4-3 IKEJIRI ITAMI , HYOGO 664 JAPAN

Mtl	Coat Typ	ANSI	Temp
Dsg	BC	Type	Class
EDW-R52	Medis	—	155

Marking : Company name and type designation on package or reels.

See General Information Preceding These Recognitions.

For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Report : January 5, 1988.

302279005 H7642 Underwriters Laboratories Inc.® D11/0149909

QMFZ2 August 31, 2002

Plastics-Component E91944

NIPPON PETROCHEMICALS CO LTD

		Min	Flame	H	H	Elec	RTI	H	D	C
Mterial	Dsg	Thk	Class	W	A		Mech	V	T	T
	Color	mm		I	I		Imp	R	5	I

Liquid Crystal Polyester (LCP), glass filled, furnished as pellets.

HM-402	NC , BK	0.30	V-0	—	—	130	130	130	—	—	—
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(a)-Virgin and Regrind up to 50% have the same basic characteristics.
 r1-Virgin and Regrind from 1 to 50% by weight incl. have the same Flame characteristics, Tensile Impact, Tensile Strength and Heat Deflection in natural color only.
 r2-Virgin and Regrind from 26-50% by weight inclusive for the colors NC, and BK liave the same Flame, and Tensile Impact characteristics.
 r3-Virgin and Regrind from 26-50% by weight inclusive have the same Flame and Tensile Impact characteristics.

Marking : Company name or trademark 新日本石油化學株式會社 and material designation on container, wrapper or finished part.

10/15/2002 Underwriters Laboratories Inc. Card 8 of 9