



# ECN HISTORY LIST

D95EN01

## SPECIFICATION FOR APPROVAL

CUSTOMER

CUSTOMER'S P/N

ARLITECH P/N

DRAWN NO.

ATPI04032R2MTA

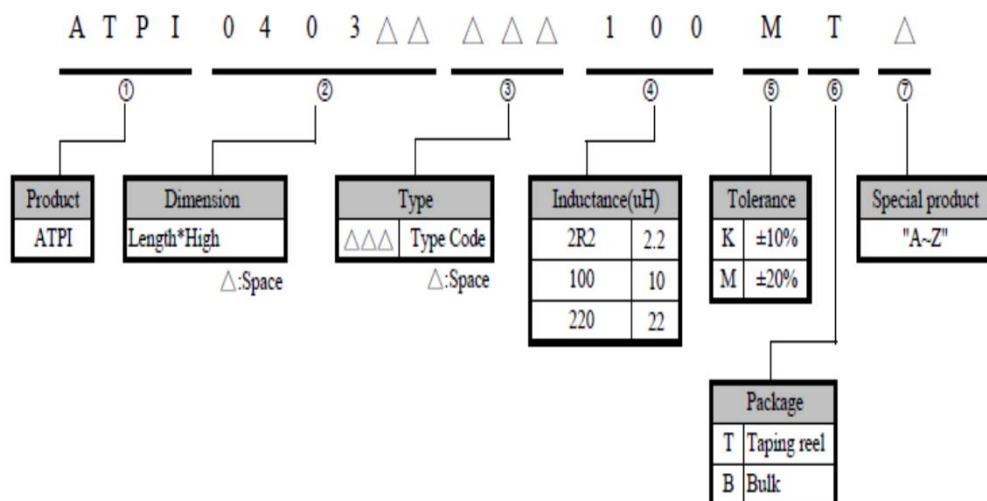
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### PRODUCT IDENTIFICATION



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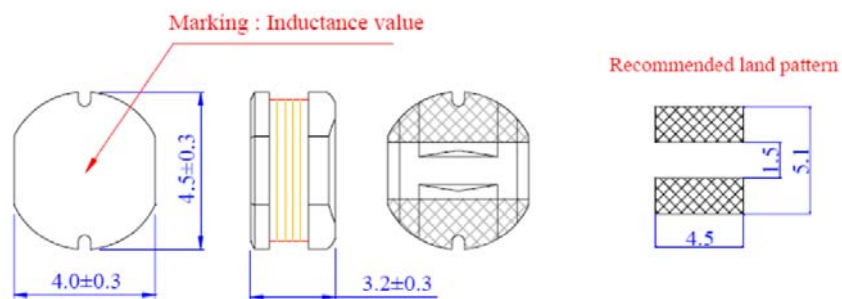
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### SHAPE & DIMENSION (UNIT:mm)



Marking Code: **2R2**

### ELECTRICAL SPECIFICATION

| MEAS. ITEM  | SPEC.                 | TEST FREQ. | CONDITIONS              |
|-------------|-----------------------|------------|-------------------------|
| <b>L</b>    | 2.2 $\mu$ H $\pm$ 20% | 100KHz/1V  | Ta=25°C , Idc=0A        |
| <b>DCR</b>  | 30 m $\Omega$ Max.    |            | Ta=25°C                 |
| <b>Isat</b> | 2.6 A Max.            | 100KHz/1V  | $\Delta$ L/L $\leq$ 10% |
| <b>Irms</b> | 2.8 A Max.            | 100KHz/1V  | $\Delta$ T $\leq$ 40°C  |
|             |                       |            |                         |
|             |                       |            |                         |

### GENERAL SPECIFICATION

Electrical specifications : at 20~25°C

Operation Temperature : -40~+125°C

Storage Temperature : -40~+125°C

### NOTE :

※Test Instrument : WAYNE KERR 3260B&3265B LCR Meter

※Isat : For Inductance drop 10% from its value without current.

※Irms : The value of D.C current when the temperature rise is  $\Delta$ T  $\leq$  40°C.(Ta=25°C)

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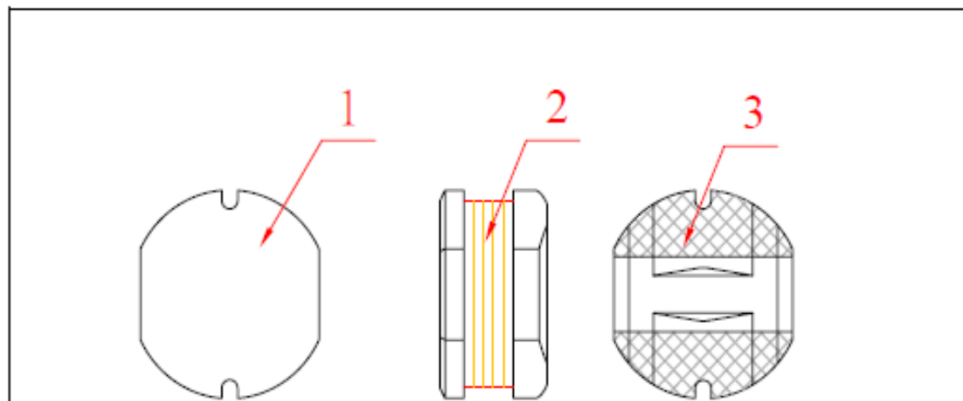
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### MATERIAL LIST



| NO. | ITEM                                   | MATERIAL      | VENDER                        | Remark        |
|-----|----------------------------------------|---------------|-------------------------------|---------------|
| 1   | Core                                   | Ni-Zn Ferrite | FLAG OR EQUIVALENT            |               |
| 2   | Wire                                   | Copper Wire   | ELEKTRISOLA OR EQUIVALENT     | UL No.E143312 |
| 3   | Electrode (top surface solder coating) | Sn            | THOUSAND ISLAND OR EQUIVALENT |               |
|     |                                        |               |                               |               |
|     |                                        |               |                               |               |
|     |                                        |               |                               |               |
|     |                                        |               |                               |               |
|     |                                        |               |                               |               |

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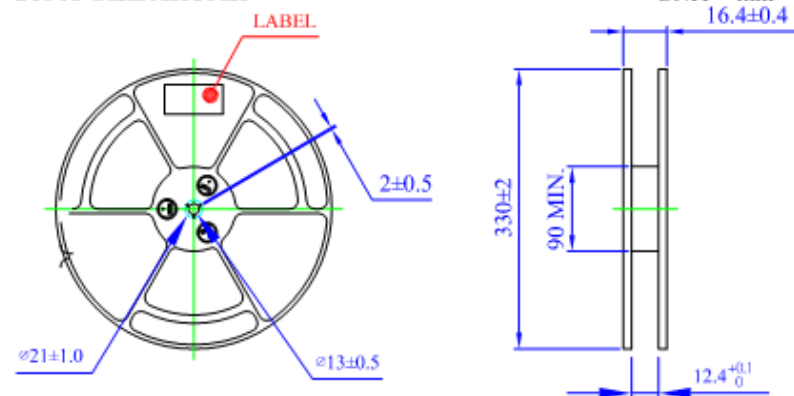
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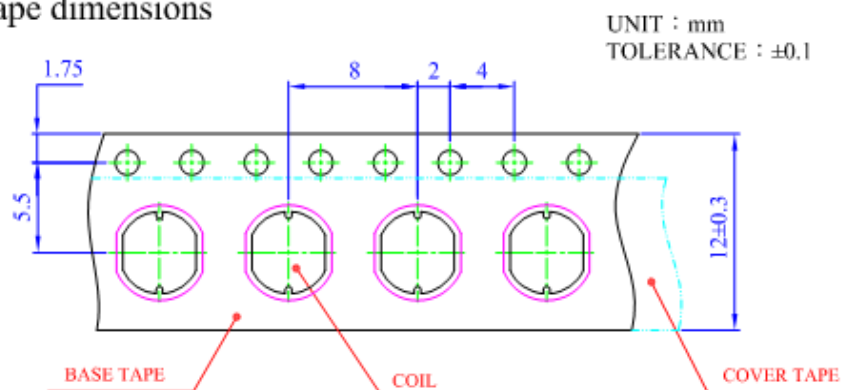
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### PACKAGING

Reel dimensions



Tape dimensions



Packaging

Quantity : **1,500** pcs/reel

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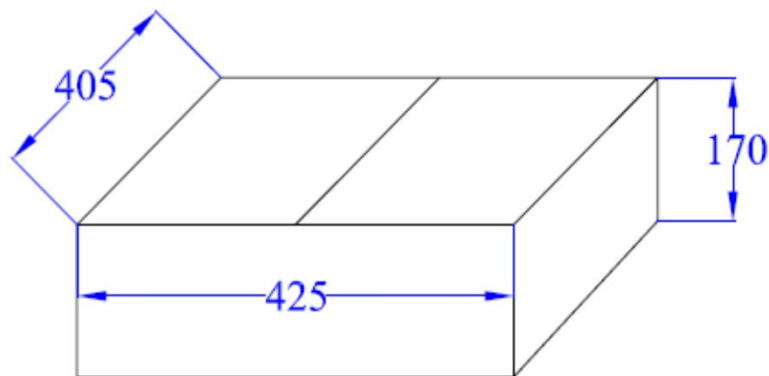
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### CARTON



1500 pcs/reel  
6 reels/carton  
9000 pcs/carton

Carton:425x405x170 mm

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### RELIABILITY TEST

| Test Items                   | Test Conditions                                                                                                                         | Criteria                                                                                       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1. Low temperature storage   | Placed at -40℃ for 500 hours, then measured at room ambient temperature after placing 24 hours.                                         | Inductance shall be within ±10% of the initial value.                                          |
| 2. High temperature storage  | Placed at +125℃ for 500 hours, then measured at room ambient temperature after placing 24 hours.                                        | Inductance shall be within ±10% of the initial value.                                          |
| 3. Thermal shock             | Condition for 1 cycle:<br>-40℃, 30min. ~ +125℃, 30min.<br>Number of cycles: 5                                                           | Inductance shall be within ±10% of the initial value.                                          |
| 4. Humidity resistance       | Placed at 90 to 95%RH, +60℃ for 500 hours, then measured at room ambient temperature after placing 24 hours.                            | Inductance shall be within ±10% of the initial value.<br>Insulation resistance > 100Mohm at DC |
| 5. Drop                      | Drop specimen three times on concrete floor from a height of 1 meter which mounted on test board.                                       | Inductance shall be within ±10% of the initial value.                                          |
| 6. Vibration                 | Frequency: 10~55~10Hz<br>Amplitude: 1.5mm or 10G<br>Sweep time: 1oct/min<br>Test Directions: X,Y,Z<br>Test Time: 2 hours each direction | Inductance shall be within ±10% of the initial value.                                          |
| 7. Terminal strength         | Add static load 4.9N (500gf) to inductor through hole of test board for 10±2 sec.                                                       | No detachment of terminal pin and no breakage of wire.                                         |
| 8. Soldering heat resistance | Dip inductor's terminal in solder bath of following conditions:<br>1) 260±5℃, 10±1sec,<br>2) 350±10℃, 3.5±0.5sec                        | Inductance shall be within ±10% of the initial value.<br>Appearance: No damage                 |

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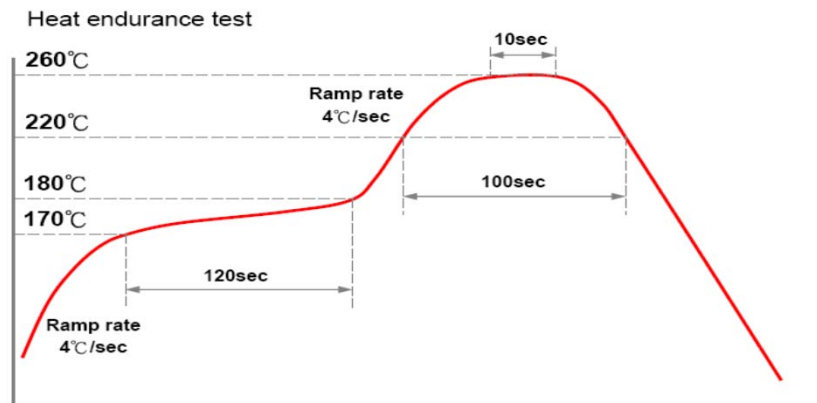
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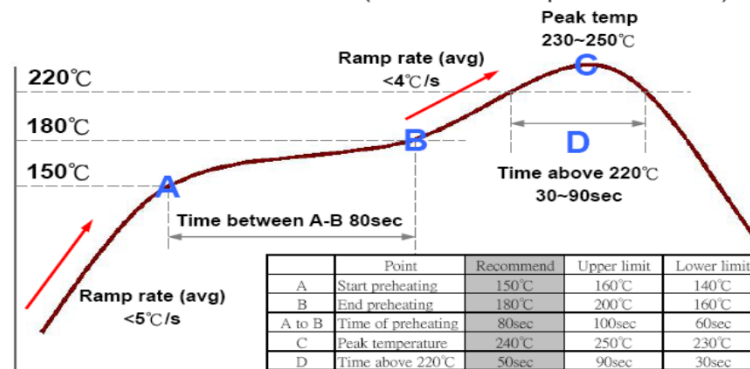
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### REFLOW-PROFILE



- ⊙ The test should be made under the conditions according to the chart, after the test it is kept for 2 hours under the normal temperature and humidity.
- ⊙ The reflow test can be done twice, but the interval should be more than one hour under the normal conditions.
- ⊙ The reflow test conditions are based on the testing instruments available in Arlitech.

Recommended Reflow Profile (for EOC Solder paste **S70G-HF**)



- ⊙ The reflow condition recommended above is according to the machine used by our company. Big differences will arise as a result of the type of machine, reflow conditions, method, etc used. Hence, before setting up your reflow conditions, please confirm with the above.

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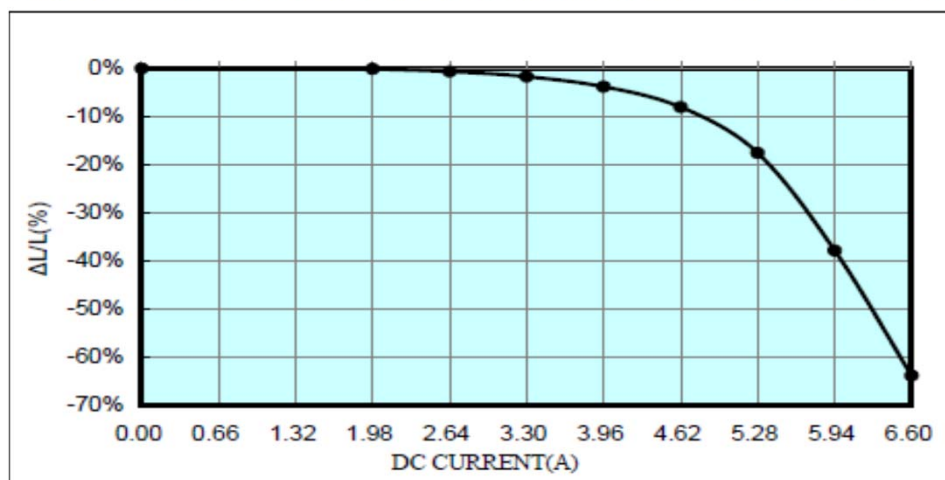
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Isat(飽和電流):電感瞬間的突波電流

### ATPI04032R2MTA

| TIME(秒) | Isat(A) | L(uH) | $\Delta L/L(\%)$ |
|---------|---------|-------|------------------|
| 1.00    | 0.00    | 1.93  | 0.00%            |
| 1.00    | 0.66    | 1.93  | 0.03%            |
| 1.00    | 1.32    | 1.93  | 0.12%            |
| 1.00    | 1.98    | 1.93  | -0.10%           |
| 1.00    | 2.64    | 1.92  | -0.65%           |
| 1.00    | 3.30    | 1.90  | -1.70%           |
| 1.00    | 3.96    | 1.86  | -3.78%           |
| 1.00    | 4.62    | 1.78  | -8.05%           |
| 1.00    | 5.28    | 1.59  | -17.60%          |
| 1.00    | 5.94    | 1.20  | -37.93%          |
| 1.00    | 6.60    | 0.70  | -63.96%          |

※DC bias current characteristics in the ambient temperature 25°C Frequency 100KHz/1V



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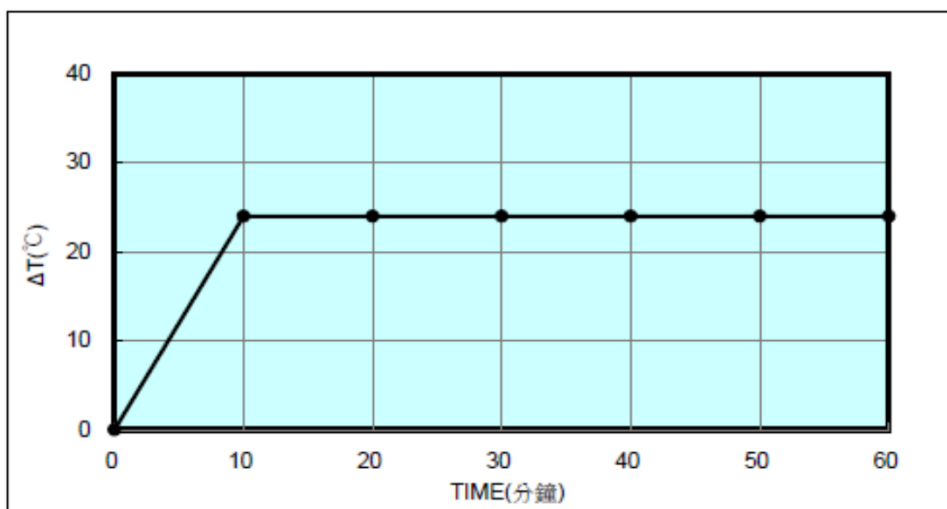
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**Irms(有效值電流):電感可以連續長期工作的電流**

### ATPI04032R2MTA

| TIME(分鐘) | Irms(A) | L(uH) | $\Delta L/L(\%)$ | Temp( $^{\circ}\text{C}$ ) | $\Delta T(^{\circ}\text{C})$ |
|----------|---------|-------|------------------|----------------------------|------------------------------|
| 0        | 0.00    | 1.93  | 0.00%            | 25.1                       | 0.0                          |
| 10       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |
| 20       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |
| 30       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |
| 40       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |
| 50       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |
| 60       | 2.80    | 1.93  | -0.26%           | 49.1                       | 24.0                         |

※DC bias current characteristics in the ambient temperature 25 $^{\circ}\text{C}$  Frequency 100KHz/1V



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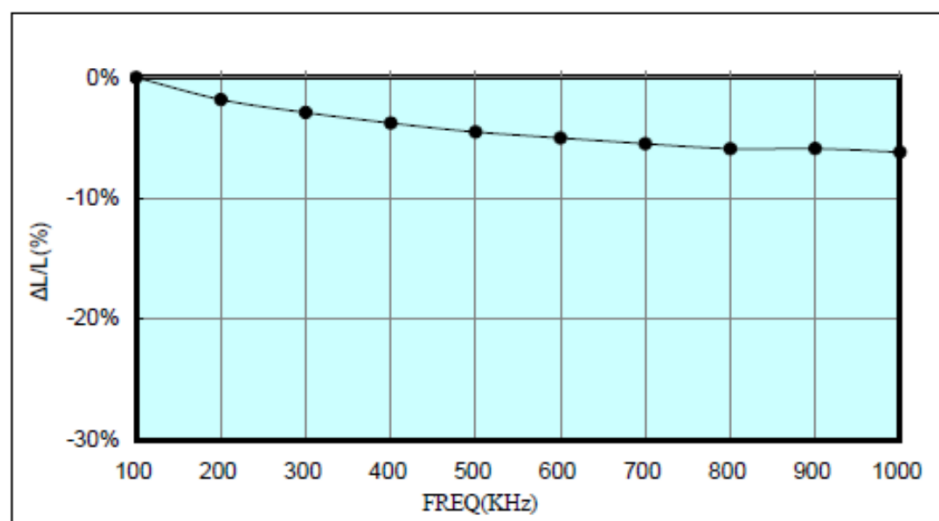
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### L-F CURVE

#### ATPI04032R2MTA

| FREQ(KHz) | L(uH) | $\Delta L/L(\%)$ |
|-----------|-------|------------------|
| 100       | 1.92  | 0.00%            |
| 200       | 1.89  | -1.83%           |
| 300       | 1.87  | -2.89%           |
| 400       | 1.85  | -3.77%           |
| 500       | 1.83  | -4.52%           |
| 600       | 1.82  | -5.01%           |
| 700       | 1.82  | -5.48%           |
| 800       | 1.81  | -5.90%           |
| 900       | 1.81  | -5.87%           |
| 1000      | 1.80  | -6.18%           |



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## UL CARD



ONLINE CERTIFICATIONS DIRECTORY

**OBMW2.E143312**  
**Magnet Wire - Component**

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### Magnet Wire - Component

See General Information for Magnet Wire - Component

**ELEKTRISOLA (MALAYSIA) SDN BHD**  
JALAN DAMAI SATU  
JANDA BAIK  
28750 BENTONG, PAHANG MALAYSIA

E143312

| Mtl<br>Dsg    | Mark<br>Dsg    | Coat Typ     |       | ANSI<br>Type | Temp<br>Class @ |
|---------------|----------------|--------------|-------|--------------|-----------------|
|               |                | BC           | OC    |              |                 |
| Estersol 180  | E180           | Polyester-   | —     | MW-77        | 180             |
|               |                | imide        |       |              |                 |
|               |                | (solderable) |       |              |                 |
| Amidester 200 | A200           | Polyester-   | —     | MW-74        | 200             |
|               |                | imide        |       |              |                 |
| Polysol-N 155 | PN155          | Polyurethane | Nylon | MW-80        | 155             |
|               |                |              |       | MW-28        | (+)130          |
| Polysol 155   | P155, G155     | Polyurethane | —     | MW-79, MW-75 | 155, (+)130     |
| Polysol 155g  | Pg155          | Polyurethane | —     | MW75         | 130             |
| Polysol 155p  | Pp155, Gp155   | Polyurethane | —     | MW79         | 155             |
| Polysol 160   | P160           | Polyurethane | —     | MW-79        | 155             |
| Polysol 180   | P180, G180     | Polyurethane | —     | MW82,MW79    | 180, (+)155     |
| Polysol 170   | P170 or G170   | Polyurethane | —     | MW79         | 155             |
| Polysol-N 180 | PN180          | Polyurethane | Nylon | MW83         | 180             |
| Polysol P155p | P155p or G155p | Polyurethane | —     | MW79         | 155             |

@ - Magnet wire from a higher temperature class may be used in an insulation system as a substitute for magnet wire from a lower temperature class when both magnet wires are from the same family (non-solderable for non-solderable, solderable for solderable, polyurethane for polyurethane, etc.).

(+) - Additional consideration is needed before wire is used in an insulation system thermal aging program.

Marking: Company name, material designation or marked designation and factory identification on package or reel.  
Last Updated on 2007-09-11

Questions?

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