# Model introduction

| Product Type | PEW/130 | PEW/155 | UEW/130 | UEW/155 | UEW/180 | EIW/180 | EI/AIW/200 | EI/AIW/220 |
|---|---|---|---|---|---|---|---|---|
| **General Description** | 130Grade Polyester | 155Grade Modified Polyester | 155Grade Solderability Polyurethane | 155Grade Solderability Polyurethane | 180Grade Straight Welded Polyurethane | 180Grade Polyester Imine | 200Grade Polyamide imide compound polyester imide | 220Grade Polyamide imide compound polyester imide |
| **IEC Guideline** | IEC60317-3 | IEC60317-3 | IEC 60317-20, IEC 60317-4 | IEC 60317-20, IEC 60317-4 | IEC 60317-51,IEC 60317-20 | IEC 60317-23, IEC 60317-3, IEC 60317-8 | IEC60317-13 | IEC60317-26 |
| **NEMA Guideline** | NEMA MW 5-C | NEMA MW 5-C | MW 75C | MW 79, MW 2, MW 75 | MW 82, MW79, MW75 | MW 77, MW 5, MW 26 | NEMA MW 35-C<br>NEMA MW 37-C | NEMA MW 81-C |
| **UL-Approval** | / | YES | YES | YES | YES | YES | YES | YES |
| **Diameters Available** | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm | 0.03mm-4.00mm |
| **Temperature Index (°C )** | 130 | 155 | 155 | 155 | 180 | 180 | 200 | 220 |
| **Softening Breakdown Temperature(°C)** | 240 | 270 | 200 | 200 | 230 | 300 | 320 | 350 |
| **Thermal Shock Temperature(°C)** | 155 | 175 | 175 | 175 | 200 | 200 | 220 | 240 |
| **Solderability** | Not weldable | Not weldable | 380℃/2s Solderable | 380℃/2s Solderable | 390℃/3s Solderable | Not weldable | Not weldable | Not weldable |
| **Characteristics** | Good heat resistance and mechanical strength. | Excellent chemical resistance; good scratch resistance; poor hydrolysis resistance | Softening breakdown temperature is higher than UEW/130; easy to dye; low dielectric loss at high frequency; no salt water pinhole | Softening breakdown temperature is higher than UEW/130; easy to dye; low dielectric loss at high frequency; no salt water pinhole | Softening breakdown temperature is higher than UEW/155; straight soldering temperature is 390 °C; easy to dye; low dielectric loss at high frequency; no salt water pinhole | High heat resistance; excellent chemical resistance, high heat shock, high softening breakdown | High heat resistance; thermal stability; cold-resistant refrigerant; high softening breakdown; high thermal shock | High heat resistance; thermal stability; cold-resistant refrigerant; high softening breakdown; high heat rush |
| **Application** | Ordinary motor, medium transformer | Ordinary motor, medium transformer | Relays, micro-motors, small transformers, ignition coils, water stop valves, magnetic heads, coils for communication equipment. | Relays, micro-motors, small transformers, ignition coils, water stop valves, magnetic heads, coils for communication equipment. | Relays, micro-motors, small transformers, ignition coils, water stop valves, magnetic heads, coils for communication equipment. | Oil-immersed transformer, small motor, high-power motor, high-temperature transformer, heat-resistant component | Oil-immersed transformer, high-power motor, high-temperature transformer, heat-resistant component, sealed motor | Oil-immersed transformer, high-power motor, high-temperature transformer, heat-resistant component, sealed motor |

## Heat resistance

| Product Style | PEW/130 | PEW/155 | UEW/130 | UEW/155 | UEW/180 | EIW/180 | EI/AIW/200 | EI/AIW/220 |
|---|---|---|---|---|---|---|---|---|
| Temperature index (°C) | ≥130 | ≥155 | ≥130 | ≥155 | ≥180 | ≥180 | ≥200 | ≥220<br>≥200 |
| Softening breakdown temperature (°C)standard requirement | ≥240 | ≥270 | ≥175 | ≥200 | ≥230 | ≥300 | ≥320 | ≥350 |
| Typical value of SHENZHOU (°C) (0.10mm) | 260 | 280 | 210 | 230 | 260 | 350 | 360 | 390 |
| Typical value of SHENZHOU (°C) (0.25mm) | 260 | 290 | 200 | 225 | 260 | 350 | 380 | 400 |
| Thermal shock temperature (°C) | 155 | 175 | 155 | 175 | 200 | 200 | 220 | 240 |
| standard requirement | 155 | 175 | 155 | 175 | 200 | 200 | 220 | 240 |

## Electrical performance

| Product Style | PEW/130 | PEW/155 | UEW/130 | UEW/155 | UEW/180 | EIW/180 | EI/AIW/200 | EI/AIW/220 |
|---|---|---|---|---|---|---|---|---|
| Film continuity | | | | | | | | |
| standard requirement (Low pressure G1-0.10mm) | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 |
| Typical value of SHENZHOU (G1-0.10mm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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|---|---|---|---|---|---|---|---|---|
| **Standard requirements (IEC) (High pressure G1-0.25mm)** | ≤40 | ≤40 | ≤40 | ≤40 | ≤40 | ≤40 | ≤40 | ≤40 |
| **Typical value of SHENZHOU (High pressure G1-0.25mm)** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Breakdown voltage at room temperature for Grade 1 wires** | | | | | | | | |
| **Typical value of SHENZHOU (0.10mm)** | 3800 | 3800 | 3800 | 3800 | 3800 | 3800 | 3800 | 3800 |
| **Typical value of SHENZHOU (0.25mm)** | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 | 4200 |
| **Typical value of SHENZHOU (1.00mm)** | 6500 | 6500 | 6500 | 6500 | 6500 | 6500 | 6500 | 6500 |

## Mechanical behavior

| Product Style (copper wire) | PEW/130 | PEW/155 | UEW/130 | UEW/155 | UEW/180 | EIW/180 | EI/AIW/200 | EI/AIW/220 |
|---|---|---|---|---|---|---|---|---|
| Elongation standard（0.10mm） | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% |
| Typical value of SHENZHOU（0.10mm） | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% |
| Elongation standard（0.25mm） | ≥22% | ≥22% | ≥22% | ≥22% | ≥22% | ≥22% | ≥22% | ≥22% |
| Typical value of SHENZHOU（0.25mm） | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% |
| Elongation standard（1.00mm） | ≥35% | ≥35% | ≥35% | ≥35% | ≥35% | ≥35% | ≥35% | ≥35% |
| Typical value of SHENZHOU（0.25mm） | 55% | 55% | 55% | 55% | 55% | 55% | 55% | 55% |
| **Product Style (cca wire)** | **PEW/130** | **PEW/155** | **UEW/130** | **UEW/155** | **UEW/180** | **EIW/180** | **EI/AIW/200** | **EI/AIW/220** |
| Elongation standard（0.10mm） | ≥11% | ≥11% | ≥11% | ≥11% | ≥11% | ≥11% | ≥11% | ≥11% |
| Typical value of SHENZHOU（0.10mm） | 14% | 14% | 14% | 14% | 14% | 14% | 14% | 14% |
| Elongation standard（0.25mm） | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% |
| Typical value of SHENZHOU（0.25mm） | 22% | 22% | 22% | 22% | 22% | 22% | 22% | 22% |
| Elongation standard（1.00mm） | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% |
| Typical value of SHENZHOU（0.25mm） | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% |
| **Product Style (aluminum wire)** | **PEW/130** | **PEW/155** | **UEW/130** | **UEW/155** | **UEW/180** | **EIW/180** | **EI/AIW/200** | **EI/AIW/220** |
| Elongation standard（0.10mm） | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% | ≥10% |

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|---|---|---|---|---|---|---|---|---|
| **Typical value of SHENZHOU（0.10mm）** | 16% | 16% | 16% | 16% | 16% | 16% | 16% | 16% |
| **Elongation standard（0.25mm）** | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% | ≥15% |
| **Typical value of SHENZHOU（0.25mm）** | 28% | 28% | 28% | 28% | 28% | 28% | 28% | 28% |
| **Elongation standard（1.00mm）** | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% | ≥20% |
| **Typical value of SHENZHOU（0.25mm）** | 35% | 35% | 35% | 35% | 35% | 35% | 35% | 35% |