



浙江中聚材料有限公司

ZHEJIANG SINOPOLY MATERIALS CO.,LTD.

**Encapsulating Film
for Solar Modules**

**光伏组件封装胶膜
产品手册**



□ 透明EVA胶膜 Transparent EVA Film

J400P & J800P是中聚材料自主研发的抗PID型透明EVA光伏封装胶膜系列里的主打规格。J400P为高透过型，通常用在电池正面，J800P是紫外截止型，通常用在电池背面。这两种规格均兼具优异的抗PID、抗蜗牛纹、耐候和粘结保持等性能。如有特殊要求，我司亦可配合开发定制规格。

J400P & J800P are the typical products from the anti-PID EVA encapsulating Film series, developed by Sinopoly Materials. J400P is the standard one, with high transparency, normally for the front side, while J800P is the UV cut-off type, targeting the back side. Both of them have excellent anti-PID performance, snail grain resistance, good weatherability and adhesion strength retention. It's also acceptable for tailor made grades according to your given requirements.

| 性能 | | 单位 | 高透型 | 紫外截止型 | 检测方法 |
|---|----------------------|------------------|-----------------------|-----------------------|----------------|
| Properties | | Unit | High Transparent | UV Cut-off | |
| | | | J400P | J800P | |
| 厚度 Thickness | | mm | 0.3-0.8 | 0.3-0.8 | GB/T29848-2018 |
| 克重 Grammage | | g/m ² | 240-700 | 240-700 | |
| 收缩率 Shrinkage | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | 横向TD | % | ≤1.5 | ≤1.5 | |
| 透光率 Transmittance | 280-380nm | % | ≥80 | ≤20 | |
| | 380-1100nm | % | ≥91 | ≥91 | |
| 体积电阻 Volume Resistivity | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| 交联度 Gel Content | | % | ≥75 | ≥75 | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥60 | ≥60 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥60 | ≥60 | |
| 拉伸强度 Tensile Strength | | MPa | ≥16 | ≥16 | |
| 断裂伸长率 Tensile Elongation @ break | | % | ≥450 | ≥450 | |
| 紫外老化 120KWh/m ² UV Resistance | | ΔYI | ≤3 | ≤3 | |
| 湿热老化 DH 2000h Damp Heat Resistance | | ΔYI | ≤3 | ≤3 | |



□ 白色EVA胶膜 White EVA Film

J800W是中聚材料自主研发的抗PID型白色EVA光伏封装胶膜系列里的主打规格。J800W具有极高的可见光和红外光反射率，通常用在电池背面，兼具优异的抗PID、抗蜗牛纹、耐候和粘结保持等性能。如有特殊要求，我司亦可配合开发定制规格。

J800W is the typical products from the white anti-PID EVA encapsulating Film series, developed by Sinopoly Materials. J800W is the standard one, with high light reflectance, normally for the back side. And, it has excellent anti-PID performance, snail grain resistance, good weatherability and adhesion strength retention. It's also acceptable for tailor made grades according to your given requirements.

| 性能 Properties | | 单位 Unit | 高反射型 High Reflectance J800W | 检测方法 Test Methods |
|-------------------------------------|----------------------|------------------|-----------------------------------|----------------------|
| 厚度 Thickness | | mm | 0.3-0.8 | GB/T29848 -2018 |
| 克重 Grammage | | g/m ² | 300-800 | |
| 收缩率 Shrinkage | 纵向MD | % | ≤3.0 | |
| | 横向TD | % | ≤1.5 | |
| 光反射率 Reflectance | 400-1100nm | % | ≥90 | |
| | 780-1100nm | % | ≥87 | |
| 体积电阻 Volume Resistivity | | Ω·cm | ≥1.0*10 ¹⁵ | |
| 交联度 Gel Content | | % | ≥75 | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥60 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥60 | |
| 拉伸强度 Tensile Strength | | MPa | ≥16 | |
| 断裂伸长率 Tensile Elongation @ break | | % | ≥450 | |



□ POE胶膜 POE Film

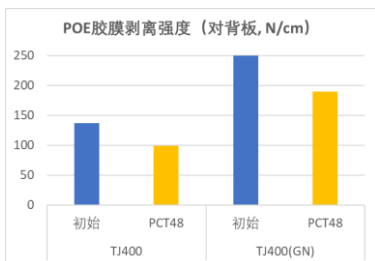
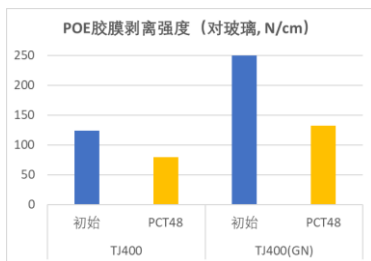
TJ400 & TJ800是中聚材料自主研发的POE光伏封装胶膜系列里的主打规格。TJ400为高透过型，通常用在电池正面，TJ800是紫外截止型，通常用在电池背面。这两种规格均兼具优异的抗水汽阻隔性、PID、耐候和粘结保持等性能，适用于PERC/TOPCON单玻或双玻组件的封装。如有特殊要求，我司亦可配合开发定制规格。

TJ400 & TJ800 are the typical products from the POE encapsulating Film series, developed by Sinopoly Materials. TJ400 is the standard one, with high transparency, normally for the front side, while TJ800 is the UV cut-off type, targeting the back side. Both of them have excellent barrier properties, anti-PID performance, good weatherability and adhesion strength retention, which are perfect for both PERC and TOPCON modules. It's also acceptable for tailor made grades according to your given requirements.

| 性能 | | 单位 | 高透型 | 紫外截止型 | 检测方法 |
|----------------------------|----------------------|------------------|-----------------------|-----------------------|----------------|
| Properties | | Unit | High Transparent | UV Cut-off | |
| | | | TJ400 | TJ800 | |
| 厚度 | | mm | 0.3-0.8 | 0.3-0.8 | NB/T10200-2019 |
| Thickness | | | | | |
| 克重 | | g/m ² | 300-700 | 300-700 | |
| Grammage | | | | | |
| 收缩率 | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | 横向TD | % | ≤1.5 | ≤1.5 | |
| 透光率 | 280-380nm | % | ≥80 | ≤20 | |
| | 380-1100nm | % | ≥90 | ≥90 | |
| 透光率 | | | | | |
| Transmittance | | | | | |
| 体积电阻 | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| Volume Resistivity | | | | | |
| 交联度 | | % | ≥70 | ≥70 | |
| Gel Content | | | | | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥60 | ≥60 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥60 | ≥60 | |
| 紫外老化 120KWh/m ² | | ΔYI | ≤3 | ≤3 | |
| UV Resistance | | | | | |
| 湿热老化 DH 2000h | | ΔYI | ≤3 | ≤3 | |
| Damp Heat Resistance | | | | | |



□ 高粘结力POE胶膜



| 性能 Properties | | 单位 Unit | 高透型 High Transparent TJ400(GN) | 紫外截止型 UV Cut-off TJ800(GN) | 检测方法 Test Methods |
|---|----------------------|------------------|--------------------------------------|----------------------------------|----------------------|
| 厚度 Thickness | | mm | 0.3-0.8 | 0.3-0.8 | NB/T10200-2019 |
| 克重 Grammage | | g/m ² | 300-700 | 300-700 | |
| 收缩率 Shrinkage | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | 横向TD | % | ≤1.5 | ≤1.5 | |
| 透光率 Transmittance | 280-380nm | % | ≥80 | ≤20 | |
| | 380-1100nm | % | ≥90 | ≥90 | |
| 体积电阻 Volume Resistivity | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| 交联度 Gel Content | | % | ≥70 | ≥70 | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥120 | ≥120 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥120 | ≥120 | |
| 紫外老化 120KWh/m ² UV Resistance | | ΔYI | ≤3 | ≤3 | |
| 湿热老化 DH 2000h Damp Heat Resistance | | ΔYI | ≤3 | ≤3 | |



□ 共挤POE胶膜 Co-extruded POE Film

J400M & J800M是中聚材料自主研发的共挤型POE光伏封装胶膜系列里的主打规格。J400M为高透过型，通常用在电池正面，J800M是紫外截止型，通常用在电池背面。这两种规格均兼具优异的抗水汽阻隔性、PID、耐候和粘结保持等性能，可更好地适用于双面双玻组件的封装。如有特殊要求，我司亦可配合开发定制规格。

J400M & J800M are the typical products from the co-extruded POE encapsulating Film series, developed by Sinopoly Materials. J400M is the standard one, with high transparency, normally for the front side, while J800M is the UV cut-off type, targeting the back side. Both of them have excellent barrier properties, anti-PID performance, good weatherability and adhesion strength retention, which are perfect for double sided modules. It's also acceptable for tailor made grades according to your given requirements.

| 性能 | | 单位 | 高透型 | 紫外截止型 | 检测方法 |
|----------------------------|----------------------|------------------|-----------------------|-----------------------|----------------|
| Properties | | Unit | High Transparent | UV Cut-off | |
| | | | J400M | J800M | |
| 厚度 | | mm | 0.3-0.8 | 0.3-0.8 | NB/T10200-2019 |
| Thickness | | | | | |
| 克重 | | g/m ² | 300-700 | 300-700 | |
| Grammage | | | | | |
| 收缩率 | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | 横向TD | % | ≤1.5 | ≤1.5 | |
| 透光率 | 280-380nm | % | ≥80 | ≤20 | |
| | 380-1100nm | % | ≥90 | ≥90 | |
| 透mittance | | | | | |
| 体积电阻 | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| Volume Resistivity | | | | | |
| 交联度 | | % | ≥70 | ≥70 | |
| Gel Content | | | | | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥60 | ≥60 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥60 | ≥60 | |
| 紫外老化 120KWh/m ² | | ΔYI | ≤3 | ≤3 | |
| UV Resistance | | | | | |
| 湿热老化 DH 2000h | | ΔYI | ≤3 | ≤3 | |
| Damp Heat Resistance | | | | | |



□ 特种共挤POE胶膜 Co-extruded POE Film

J400X & J800X是中聚材料自主研发的共挤型POE光伏封装胶膜系列里的特种规格。J400X为高透过型，通常用在电池正面，J800X是紫外截止型，通常用在电池背面，或异质结电池的正面。这两种规格均兼具超高的各界面粘结性能、优异的抗水汽阻隔性、PID、耐候等性能，可更好地适用于N型双面双玻组件的封装。

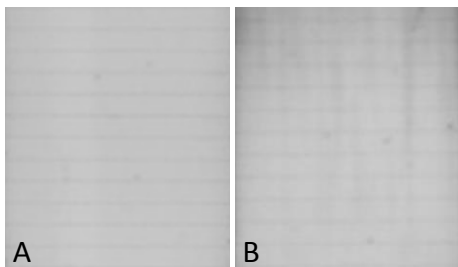
J400X & J800X are the special products from the co-extruded POE encapsulating Film series, developed by Sinopoly Materials. J400X is with high transparency, normally for the front side, while J800X is the UV cut-off type, targeting the back side, or front side of HJT cells. Both of them have excellent adhesion strengths to the interfaces, barrier properties, anti-PID performance, and good weatherability, which are perfect for double sided modules.

| 性能 | | 单位 | 高透型 | 紫外截止型 | 检测方法 |
|----------------------------|----------------------|------------------|-----------------------|-----------------------|----------------|
| Properties | | Unit | High Transparent | UV Cut-off | |
| | | | J400X | J800X | |
| 厚度 | | mm | 0.3-0.8 | 0.3-0.8 | NB/T10200-2019 |
| Thickness | | | | | |
| 克重 | | g/m ² | 300-700 | 300-700 | |
| Grammage | | | | | |
| 收缩率 | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | Shrinkage | | | | |
| 透光率 | 280-380nm | % | ≥80 | ≤20 | |
| | Transmittance | | | | |
| 体积电阻 | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| Volume Resistivity | | | | | |
| 交联度 | | % | ≥70 | ≥70 | |
| Gel Content | | | | | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥120 | ≥120 | |
| Peeling Strength | 与背板 to back sheet | | | | |
| 紫外老化 120KWh/m ² | | ΔYI | ≤3 | ≤3 | |
| UV Resistance | | | | | |
| 湿热老化 DH 2000h | | ΔYI | ≤3 | ≤3 | |
| Damp Heat Resistance | | | | | |



□ 无主栅一体膜 0BB One-piece Integrated Film

J400E & J800E是中聚材料配合无主栅电池技术研发的共挤型POE一体膜。J400E为高透过型，J800E为紫外截止型。通过有效平衡胶膜流动性 and 硫化曲线，同时实现层压后焊带与细栅的良好接触（EL无黑纹）、组件良好外观（无气泡等不良）以及组件长期可靠性。



电池片EL图像，A正常，B有黑色条纹缺陷

| 性能 | | 单位 | 高透型 | 紫外截止型 | 检测方法 |
|---|----------------------|------------------|-----------------------|-----------------------|----------------|
| Properties | | Unit | High Transparent | UV Cut-off | |
| | | | J400E | J800E | |
| 厚度 Thickness | | mm | 0.3-0.8 | 0.3-0.8 | NB/T10200-2019 |
| 克重 Grammage | | g/m ² | 300-700 | 300-700 | |
| 收缩率 Shrinkage | 纵向MD | % | ≤3.0 | ≤3.0 | |
| | 横向TD | % | ≤1.5 | ≤1.5 | |
| 透光率 Transmittance | 280-380nm | % | ≥80 | ≤20 | |
| | 380-1100nm | % | ≥90 | ≥90 | |
| 体积电阻 Volume Resistivity | | Ω·cm | ≥1.0*10 ¹⁵ | ≥1.0*10 ¹⁵ | |
| 交联度 Gel Content | | % | ≥70 | ≥70 | |
| 剥离强度 | 与玻璃 to glass | N/cm | ≥60 | ≥60 | |
| Peeling Strength | 与背板 to back sheet | N/cm | ≥60 | ≥60 | |
| 紫外老化 120KWh/m ² UV Resistance | | ΔYI | ≤3 | ≤3 | |
| 湿热老化 DH 2000h Damp Heat Resistance | | ΔYI | ≤3 | ≤3 | |



綠色能源材料 助力零碳未來