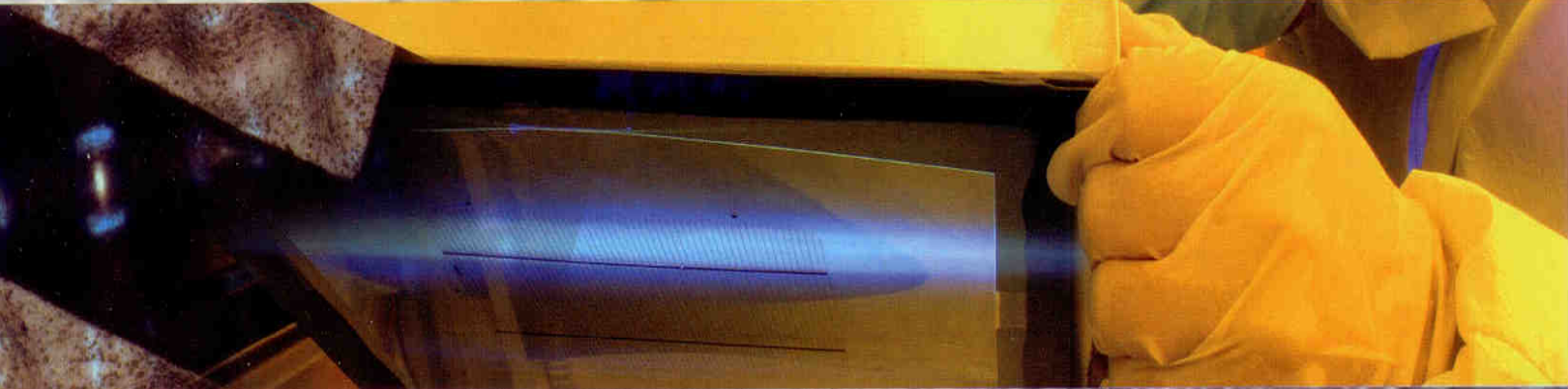


伏奇诺本特种制版科技（昆山）有限公司  
Frintrup NB special screen technology (Kunshan) Co., Ltd.



*Special Screens Superior materials Exceptional service*





我们在网版和丝网印刷领用对材料和工艺都进行了独一无二的创新。

Our specialty and innovation of material & process for both silk screen and printing.



sunstence® wm

**PV1 新型感光胶 Emulsion PV1**

PV1 新型感光胶因其特殊的工业化制成方式，在硅片印刷中表现出异常耐用和抗划伤的特点，并能有效提升印刷效果。PV1 是 sunstence® 网版系列的专用产品。

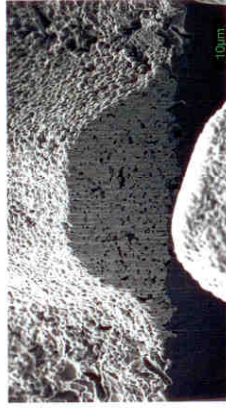


sunstence® uni

PV1 emulsion demonstrated superior extended print life due to higher durability and robustness in production. This emulsion is exclusively available for sunstence® family screens only.



烧结前



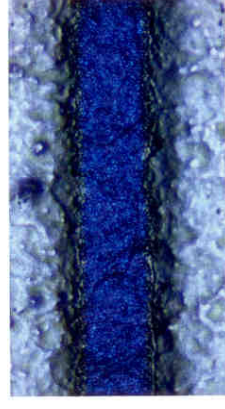
正电极双层印刷

Finger double printing



6微米薄银浆电镀基层印刷

6um thin seed layer of Ag



表面腐蚀保护印刷, 线宽100微米

etching mask printing, line width: 100um



烧结后

After firing

**DLC 表面钻石涂层处理 DLC coating**

DLC 表面涂层处理是 sunstence® 网版的可选配项。经 DLC 表面涂层处理后的网版漏墨性能大幅改善，能有效提高正电极印刷的浆料厚度。

sunstence® family screens can be equipped optionally with DLC coating, which enhances the paste release and wet print height.



电镀前



电镀后

After plating

**腐蚀保护油墨 Maramask PV - HF Screen printable resist Maramask PV - HF**

Maramask PV - HF 是一种新型的用于电镀和选择性射极太阳能电池制造工艺的前道腐蚀印刷保护油墨。配合 sunstence® wm 和 sunstence® uni 网版能达到最佳印刷效果。

Maramask PV.HF is a HF-resistant screen printable resist for plating, texturing and porous silicon formation, as used for direct plating metallization for solar cells. Printing results are optimum using sunstence® wm or sunstence® uni screens.

# 我们针对您的印刷生产条件给您制定和提供最优化的网版和印刷解决方案!

## We provide you with optimized stencil & printing solution for your stable production!

太阳能网版系列 Solar stencil family		特性和优化选配 Features & Options		应用 Applications	优势 Benefits
sunstence® poly	聚酯网布 polyester mesh			<ul style="list-style-type: none"> <li>背电极和背电场印刷。backside busbar and AI printing</li> </ul>	<ul style="list-style-type: none"> <li>保持自始至终一致的网版张力和印刷结果。consistent tension level and printing result</li> <li>印刷寿命&gt;20000次。extraordinary long printing runs&gt;20000</li> </ul>
sunstence® wm	钢丝网布 wire mesh		<ul style="list-style-type: none"> <li>新一代超耐用的涂布感光胶 extra-long-endurance-coating and emulsion-PV1 WS1.7</li> </ul>	<ul style="list-style-type: none"> <li>正电极印刷。finger fine line printing</li> <li>背电极和背电场印刷。backside busbar and AI printing</li> </ul>	<ul style="list-style-type: none"> <li>可印最小至50微米的精密线条。fine lines &gt;50um</li> <li>配合新一代感光胶,可获得有稳定保证的,并明显提高的印刷转换效率。consistant printing result with remarkably increased wafer efficiency</li> </ul>
sunstence® uni	特种复合网(聚酯网+特种金属网膜)-专利材料 polyester mesh combined with universal foil (patents pending)		<ul style="list-style-type: none"> <li>DLC“钻石涂层”网版表面后处理 DLC (diamond-like coating) surface finish processing</li> </ul>	<ul style="list-style-type: none"> <li>正电极双层印刷。finger double printing (由Baccini Esatto Technology™双层印刷机独家认可的网版。qualified by Applied Baccini for Esatto Technology™)</li> <li>电镀基层印刷。seed layer printing for plating alignment</li> </ul>	<ul style="list-style-type: none"> <li>可印最小45-60微米的精密线条。fine finger lines 45-60um</li> <li>超20,000次印刷无张力损失,无图像误差。&gt;20,000 print-runs without tension &amp; precision loss</li> <li>真正实现可套准的双层印刷。aligned double finger printing realized</li> <li>电池转换效率明显提升,同时大幅减少银浆消耗。silver paste cost reduced&amp;wafer efficiency remarkably increased</li> <li>电镀基层6微米超薄印刷。6um thin printing for plating</li> </ul>
sunstence® me	特种金属网膜-专利材料 bi-level metal etched foil (patents pending)			<ul style="list-style-type: none"> <li>电镀基层印刷。plating seed layer printing</li> </ul>	<ul style="list-style-type: none"> <li>可印最小45-60微米的精密线条 fine finger lines 45-60um</li> <li>电镀基层6微米超薄印刷6um thin printing for plating</li> </ul>
相关产品 Other products	特点和优势 Features & Benefits				特点及应用 Features & Applications
Hurtz 网框 Hurtz frame	<ul style="list-style-type: none"> <li>专利高强度铝材和型材设计。patented aluminium material &amp; frame profile</li> <li>精准地工业化的制模生产。accurate &amp; industrialized moulding</li> <li>强度更高单重量更轻! lighter weight but even stronger!</li> </ul>				<ul style="list-style-type: none"> <li>各种行业。All industries</li> <li>数据编辑和修改,菲林精度可达25400dpi。Artwork creation, modification, thick film with max.25400dpi</li> </ul>
钻石刮胶和多层刮胶 diamond squeegee & trailing squeegee (multi-layered)	<ul style="list-style-type: none"> <li>太阳能电池丝印的专业特制刮胶。professional and specified for solar screen printing</li> </ul>				<ul style="list-style-type: none"> <li>“晶硅、薄膜、电镀等”太阳能电池技术 “silicon wafer, thin film, plating &amp; etching” solar cell technologies</li> <li>网版、浆料、刮胶、印刷参数全方位的技术解决方案。provide complete solution of stencil, paste, squeegee, screen printing settings</li> </ul>



sunstence® uni  
+ PV1感光胶



sunstence® wm  
+ PV1感光胶



sunstence® wm  
+ WS1.7感光胶



新型网框 Hurtz Frame  
355 x 355 mm / M 6  
28/22 x 25 x 3,0/1,5  
0,71 kg

传统网框 Casting frame  
355 x 355mm / M 6  
1,5 kg

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<http://www.nb-technologies.de>

伏奇诺本特种制版科技(昆山)有限公司是一家中德合资企业。它完美结合了Hans Frintrup公司在丝网制版行业的资深制造经验和NB Technologies公司在精密科学领域的高端研发技术。他们在中国共同打造的新公司将与具有竞争力的技术团队和供应商合作,使客户获得世界前沿的新材料、新技术和增值服务,为亚洲光伏市场和微电子印刷领域提供高尖端的网版产品和全方位丝印技术解决方案。

Frintrup NB special screen technology (Kunshan) Co., Ltd. is a joint venture and ideally combines the expertise of Hans Frintrup GmbH as a screen manufacturing company and NB Technologies GmbH as consulting engineers. The new company works within a competence network of suppliers and partners, which ensures the customer to benefit from a portfolio of leading edge materials, technologies and services, and produces high-end screens for the Asian photovoltaic and microelectronic market, while the portfolio incorporates services for the screen printing field from an "entirety" aspect.

全球合作 WORLD WIDE COOPERATION

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M-SERVICE