









Ferrania Solis Photovoltaic Module Strengths

<ul style="list-style-type: none"> ○ "PID Free" modules according to IEC 62804 Ed. 1.0 draft standard Excellent stability and duration. 	
<ul style="list-style-type: none"> ○ Class 1 fire reaction according to UNI 9177 standard Excellent fire reaction performance. 	
<ul style="list-style-type: none"> ○ Salt mist resistance test (CEI EN 61701:2011) Suitable for usage in coastal areas. 	
<ul style="list-style-type: none"> ○ Ammonia resistance test (IEC 62716:2013) Suitable for usage in farms, piggeries, barns, etc. 	
<ul style="list-style-type: none"> ○ Mechanical resistance test up to 600Kg/m² also for frameless modules Suitable for usage in BIPV plants. 	
<ul style="list-style-type: none"> ○ 40-years Life Test (heat/dump test up to 2000h) Robustness and duration. 	



Product Certifications

<ul style="list-style-type: none"> ○ Certificate of conformity (EN IEC 61215:2005; EN 61730-1 & 2:2007) ○ Factory Inspection for standard, transparent or frameless modules. ○ Made in EU Attestation. 	
<ul style="list-style-type: none"> ○ MCS Certification for UK (Kitemark Licence BSI Nr. KM 597721) to get the feed-in tariffs in UK. 	
<ul style="list-style-type: none"> ○ INMETRO Registration for Brazil (Registration Nr. 005673/2013) 	

Materials and design for superior performance


<ul style="list-style-type: none"> ○ First quality glass to maximize the mechanical resistance: frontside up to 6000 Pascal / 600 kg/m² (snow loads up to 1m) also for frameless modules and backside up to 4600 Pascal (to simulate wind pressure of 180 km/h with security factor 3 to take account of wind gusts).
<ul style="list-style-type: none"> ○ Glasses with anti-reflective coating to gain up to 4% in energy production per power unit and with light trapping systems on inactive areas to maximize electrical production.
<ul style="list-style-type: none"> ○ First quality "PID Free" polycrystalline cells with limited efficiency loss for stabilization and ageing.
<ul style="list-style-type: none"> ○ Tapered profile to minimize shadings and help the water/snow/dust draining.
<ul style="list-style-type: none"> ○ Performance warranties based on severe ageing tests (more critical than present normative requirements).

System Certificates (Integrated Management System compliant with D. Lgs 231/01)

o UNI EN ISO 9001:2008 Quality - Certificate n° 15852	
o UNI EN ISO 14001:2004 Environment - Certificate n°17234	
o BS OHSAS 18001:2007 Health & Safety at Work - Certificate n°17235	
o Certificate of Excellence CERTIQUALITY - Certificate n°321	
o Attestation SOA - Cat. OG9 / Class. II to carry out public works	

Ferrania Solis completed (one of the first Italian photovoltaic factories) the certification of its **Integrated Management System** applied to **ALL** of its activities (including PV plant installation) and has been granted the **Certiquality Certificate of Excellence** (award granted to a restricted selection of companies demonstrating a responsible voluntary commitment in their corporate governance reaching the above mentioned certifications). Ferrania Solis also decided to adopt an "**Organisation, Management and Control Model**" in conformity with the Italian **Legislative Decree 231/2001** with the aim to increase **transparency** and **efficiency**.

End-of-life module Collection and Recycling

o Member of COBAT (Consorzio Nazionale Raccolta e Riciclo) for Italy.	
--	---

Ferrania Solis is member of **COBAT** (national Collective System for collection and recycling of the end-of-life photovoltaic modules in Italy compliant with GSE's requirements) and is **fully compliant with ALL of the requirements** of Italian **5° Conto Energia** and **GSE Technical Rules, CEI Guide 82-25 and D.lgs. 49/2014**.

In Process and Release Checks, Packaging and Classification

o Optimized cell welding process to avoid local overheating.
o Lamination process continuous check to guarantee full stability of the laminate in real operational conditions for the entire module life.
o Module insulation check (Safety Class II: up to 1000 V voltage systems).
o Factory Inspection of the production process (TUV Intercert).
o 100% visual check and quality classification of the modules.
o 5 watt power class classification of the modules with only positive power tolerance (-0/+3%) .
o Each power class is furtherly subdivided into two current classes (Imp) to minimize mismatching losses .
o String ready pallets (homogeneous pallets in power and current classes) to help on-site installation .
o Vertical packaging of the modules to minimize mechanical stress during transportation .

Product Warranties

o 10 years on manufacturing defects.
o 12 years on 90% of the nominal power.
o 25 years on 80% of the nominal power.

Photon, the well known photovoltaic international magazine, tested Ferrania Solis module's quality publishing the results on the magazine from September 2011 on.

Ferrania Solis modules are always among the best polycrystalline silicon modules in the world in terms of productivity (kWh/kWp).