

Certificate

Registration No.: PV 50178778

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Report No.: 12605818 019

License Holder:

Hyundai Heavy Industries Co., Ltd.
1, Jeonha-dong,
Dong-gu, Ulsan,
682-792, Rep. of Korea

Product:

PV Module

Addition

Type: HiS-MxxxMF(BK)

(xxx = 190, 193, 195, 198, 200, 203, 205, 208, 210, 213,
215, 218, 220, 223, 225, 228, 230)

HiS-SxxxMF(BK)

(xxx = 190, 193, 195, 198, 200, 203, 205, 208, 210, 213,
215, 218, 220, 223, 225, 228, 230)

HiS-MxxxMG(BK)

(xxx = 203, 205, 208, 210, 213, 215, 218, 220, 223, 225,
228, 230, 233, 235, 238, 240, 243, 245, 248, 250, 253, 255)

HiS-SxxxMG(BK)

(xxx = 220, 223, 225, 228, 230, 233, 235, 238, 240, 243,
245, 248, 250, 253, 255, 258, 260, 263, 265, 267)

Manufacturing Plant:

Hyundai Heavy Industries Co., Ltd.
169, Daejang-ri, Soi-myeon,
Eumseong-kun, Chungcheongbuk-do,
369-872, Rep. of Korea

Basis:

IEC 61215:2005
EN 61215:2005
"Crystalline silicon terrestrial
photovoltaic (PV) modules - Design
qualification and type approval"

Factory Inspection
To document the consistent quality of
the product factory inspections are
performed periodically.



- **Periodic inspection**
- **Qualified, IEC 61215**
- **Safety tested, IEC 61730**

Remarks:

- Additional type designations see above.
- Mechanical load at 5400 Pa has been performed.
- The details of the factory inspection are documented in report no. 21207320.
- Extension to alternative black Backsheet (s) / EVA (s) combination specified in the a. m. report.

Conditions:

The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.

The certificate is valid until 01 September 2014.

Yokohama, 11 July 2011

TÜV Rheinland Japan Ltd. – Yokohama 222-0033, Japan



Certification body

Dipl.-Ing. M. Geiser

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Report No.: 12605818 027

License Holder:

Hyundai Heavy Industries Co., Ltd.
1, Jeonha-dong,
Dong-gu, Ulsan,
682-792, Rep. of Korea

Product:

PV Module

Type: refer to the preceding certificate pages

Manufacturing Plant:

Hyundai Heavy Industries Co., Ltd.
1-5, Daejang-ri, Soi-myeon,
Eumseong-kun, Chungcheongbuk-do,
369-872, Rep. of Korea

Basis:

- IEC 61215:2005**
EN 61215:2005
"Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval"
- Factory Inspection**
To document the consistent quality of the product factory inspections are performed periodically.



- **Periodic inspection**
- **Qualified, IEC 61215**
- **Safety tested, IEC 61730**

Remarks:

- Factory address for Hyundai Heavy Industries Co., Ltd. changed to see above.
- Mechanical load at 5,400 Pa and 8,000 Pa has been performed.
- The details of the factory inspection are documented in report no. 21207320.

Conditions:

The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.

The certificate is valid until 01 September 2014.



Certification body

Yokohama, 19 November 2012


Dipl.-Ing. S. Kiehn

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Report No.: 12605818 020

License Holder:

Hyundai Heavy Industries Co., Ltd.
1, Jeonha-dong,
Dong-gu, Ulsan,
682-792, Rep. of Korea

Manufacturing Plant:

Hyundai Heavy Industries Co., Ltd.
169, Daejang-ri, Soi-myeon,
Eumseong-kun, Chungcheongbuk-do,
369-872, Rep. of Korea

Product:

PV Module

Addition

Type: HiS-MxxxMF(BK)

(xxx = 190, 193, 195, 198, 200, 203, 205, 208, 210, 213,
215, 218, 220, 223, 225, 228, 230)

HiS-SxxxMF(BK)

(xxx = 190, 193, 195, 198, 200, 203, 205, 208, 210, 213,
215, 218, 220, 223, 225, 228, 230)

HiS-MxxxMG(BK)

(xxx = 203, 205, 208, 210, 213, 215, 218, 220, 223, 225,
228, 230, 233, 235, 238, 240, 243, 245, 248, 250, 253, 255)

HiS-SxxxMG(BK)

(xxx = 220, 223, 225, 228, 230, 233, 235, 238, 240, 243,
245, 248, 250, 253, 255, 258, 260, 263, 265, 267)

Basis:

- IEC 61730-1:2004
IEC 61730-2:2004
EN 61730-1:2007
EN 61730-2:2007
"Photovoltaic (PV) module safety
qualification"

- Factory Inspection**
To document the consistent quality of
the product factory inspections are
performed periodically.



- Periodic inspection
- Qualified, IEC 61215
- Safety tested, IEC
61730

Remarks:

- Additional type designations see above.
- IEC EN 61730 consists of part 1 (Requirements for construction) and part 2 (Requirements for testing).
- The above listed PV modules fulfil the requirements of Application Class A (Safety Class II). They may be used in PV plants
at a maximum system voltage (Voc at STC) of up to **1000 VDC**.
- The fire test (IEC 61730-2 / MST 23) was not performed.
- The details of the factory inspection are documented in report no. 21207320.
- Extension to alternative black Backsheet (s) / EVA (s) combination specified in the a. m. report.

Conditions:

The product test is voluntarily according to technical regulations. Any change of the design, materials, components or
processing may require the repetition of some of the qualification tests in order to retain type approval.

The certificate is valid until 01 September 2014.

Yokohama, 11 July 2011

TÜV Rheinland Japan Ltd. – Yokohama 222-0033, Japan



Certification body

Dipl.-Ing. M. Geiser

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Report No.: 12605818 028

License Holder:
Hyundai Heavy Industries Co., Ltd.
1, Jeonha-dong,
Dong-gu, Ulsan,
682-792, Rep. of Korea

Product:
PV Module

Type: refer to the preceding certificate pages

Manufacturing Plant:
Hyundai Heavy Industries Co., Ltd.
1-5, Daejang-ri, Soi-myeon,
Eumseong-kun, Chungcheongbuk-do,
369-872, Rep. of Korea

Basis:

- IEC 61730-1:2004
IEC 61730-2:2004
EN 61730-1:2007
EN 61730-2:2007
"Photovoltaic (PV) module safety qualification"



- Periodic inspection
- Qualified, IEC 61215
- Safety tested, IEC 61730

- Factory Inspection**
To document the consistent quality of the product factory inspections are performed periodically.

Remarks:

- Factory address for Hyundai Heavy Industries Co., Ltd. changed to see above.
- IEC EN 61730 consists of part 1 (Requirements for construction) and part 2 (Requirements for testing).
- The above listed PV modules fulfil the requirements of Application Class A (Safety Class II). They may be used in PV plants at a maximum system voltage (Voc at STC) of up to 1000 VDC.
- Fire Resistance Class C (IEC 61730-2 / MST 23) for EVA(s) and Backsheet(s) as specified in the test report.
- The details of the factory inspection are documented in report no. 21207320.


Conditions:

The product test is voluntarily according to technical regulations. Any change of the design, materials, components or processing may require the repetition of some of the qualification tests in order to retain type approval.

The certificate is valid until 01 September 2014.



Certification body


Dipl.-Ing. S. Kiehn

Yokohama, 19 November 2012

TÜV Rheinland Japan Ltd. – Yokohama 222-0033, Japan