

CAPABILITY PROFILE IN SUPPLYING FLOATING AND ANCHORING SYSTEM FOR SOLAR POWER PLANT PROJECTS

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1. NARIME's working capability and scope of supply

+ Workshop to produce floats:

* Quantity of machines to produce main float: 03

✓ Capacity of machine: 250 floats/day/01 machine

* Quantity of machines to produce second float: 04

✓ Capacity of machine: 380 float/day/01 machine.

* Quantity of machine to produce connection pin: 01

✓ Capacity of machine: 2500 pieces/day/01 machine.

+ Factory at Site

- Factory's area: 72x18 m (1300m²)

Factory is equipped:

01 crane with lifting force: 5 tons, span 18m and lifting height 8m

01 power station: 800 KVA

01 Fire fighting system

+ Area of production storing: 30.000 m²

Number of local workers: 84 people

Technical experts: 16 people

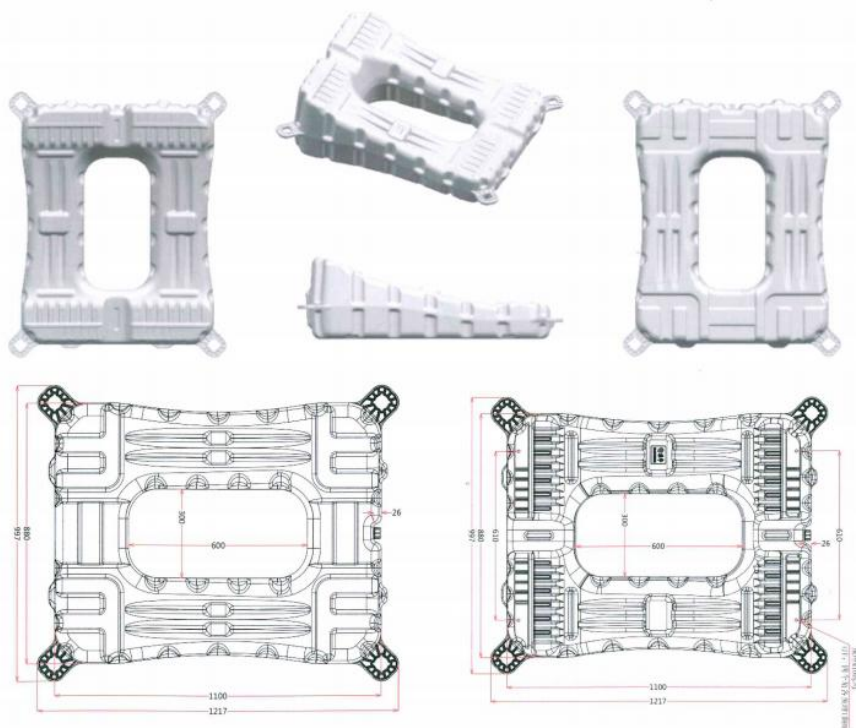
Mate: 10 people



Technical specification of production

* Main float (support the PV module)

The main float is the exclusive and prefabricated type, angle of inclination of float is 12° . The structure of the main float is empty and watertight. The thickness is $\geq 3\text{mm}$, material: HDPE with addition against UV ray and oxidation.



The technical parameters of the main float include:

- Material: HDPE;
- Average thickness: 3mm;
- Weight: 9 - 11kg/float;
- Buoyancy force: 178 daN;
- Maximum horizontal tensile force per O1 connection of main float: ≥ 600 daN.



* Second float

The second float is exclusive and prefabricated. The second float is the empty structure and watertight, thickness is $\geq 3\text{mm}$.

The technical parameters of the second float include:

- Material: HDPE
- Average thickness of float: 3mm
- Net weight: 4-5kg/float
- Buoyancy force: 67 daN
- Maximum horizontal tensile force per O1 connection of second float: $\geq 600\text{daN}$.



Structure of the second float



Structure of the other float

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* Connecting accessories of float

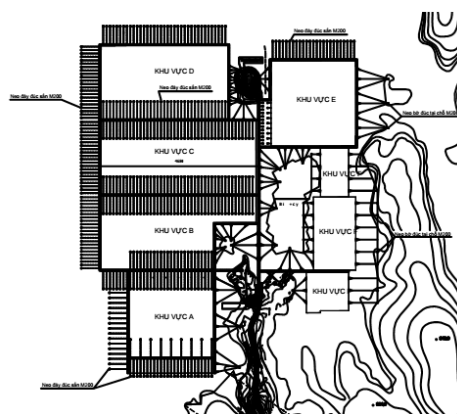


- Joining pin and nut:

+ Material of the joining pin: fiber glass reinforcement + PP or HDPE

+ Material of nut: PP or HDPE

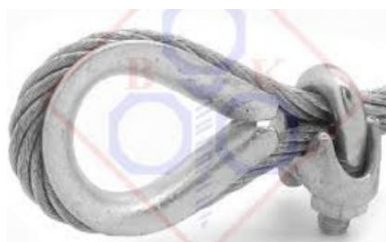
*The anchor system for arrays



* Bottom anchor and shore anchor



* The anchoring accessories include: Safety pin anchor shackle, Rope thimble, Wire rope clips.



Rope thimble



Safety pin anchor shackle

Machines for production:

03 machines to produce main float



04 machines to produce second float





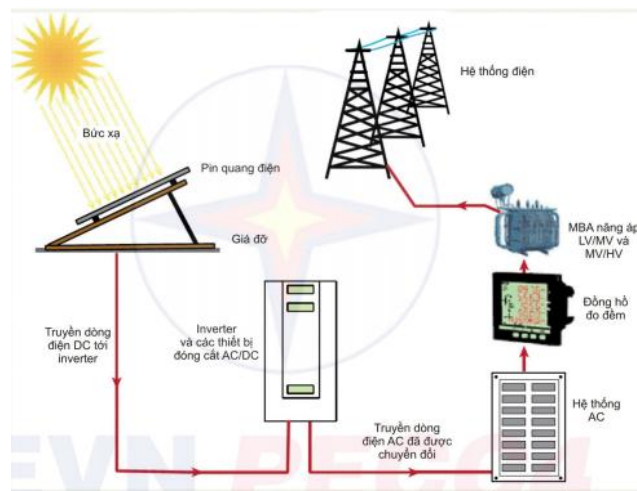
01 machine to produce connection pin



2. Typical project: Da Mi Solar Power Plant Project

The project of Da Mi solar power plant is at Da Mi reservoir, Tanh Linh district and Ham Thuan Bac district, Binh Thuan province.

Narime has cooperated with Shanghai Qihua Waterborne Engineering Construction Co., Ltd (hereinafter QIHUA) (China) to construct the floating solar power plant at Da Mi reservoir with the capacity of 47,5MWp, reservoir surface area is used from 50 ha to 75 ha, build 02 central inverter station and medium voltage booster transformer of 0,4/22 kV; build one booster transforming station of 22/110 kV with the capacity of 1×50MVA for the whole plant; build one double-circuit electric line of 110 kV, distance is of 3,5 km from the 22/110kV booster transforming station of the solar power plant to the current Ham Thuan – Duc Linh line of 110kV. All the floats and anchors are designed and manufactured under the QIHUA licensed copyright.



General diagram of the solar power plant connect to the grid

- Input parameters of calculation

+ Project schedule: 10 months

+ The beginning time to supply floats: starting time is third month, the time to supply float is 8 months.

+ Quantity of floats for PV module 330Wp:

* Quantity of main float: 153.240floats (include experimental floats);

* Quantity of second float: 306.733floats (include experimental floats).

3. Picture of activities

Construction of Da Mi Solar Power Plant project 47.5 MWp











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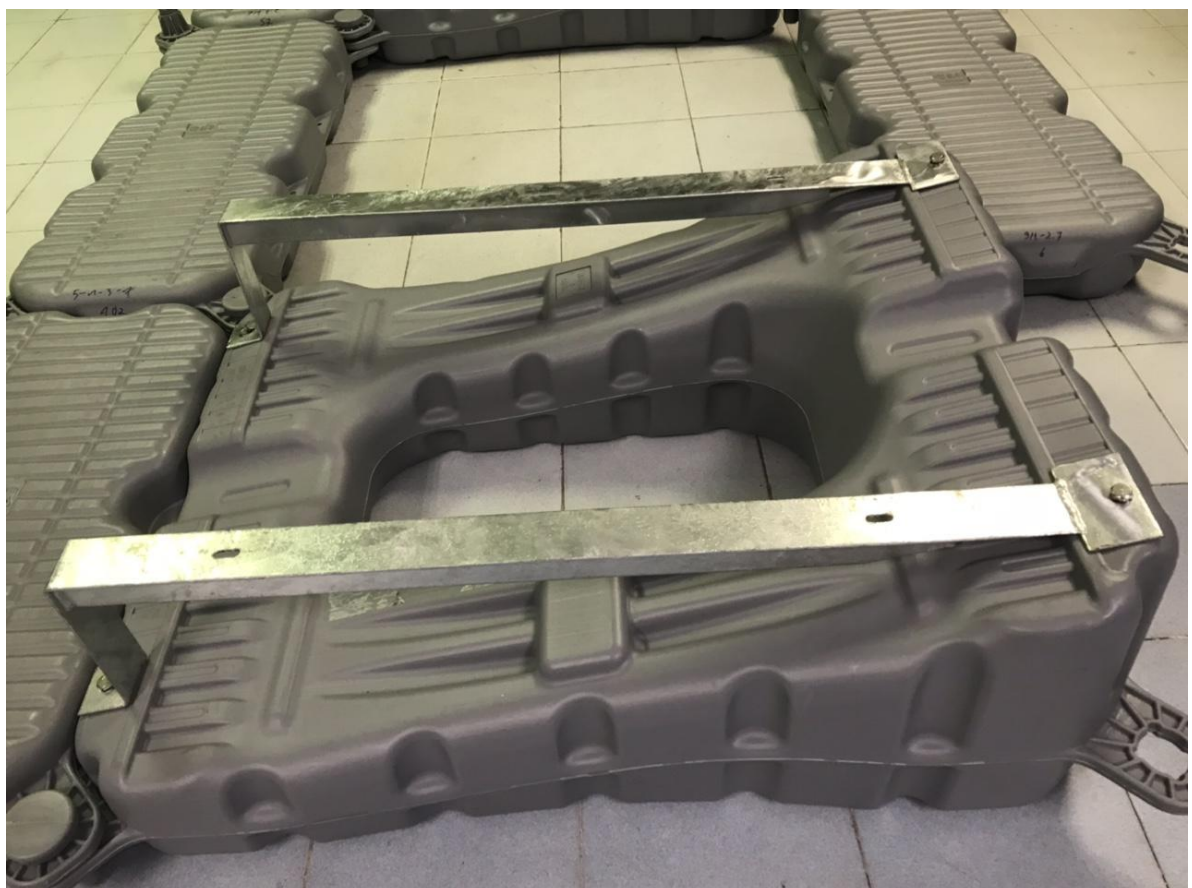


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