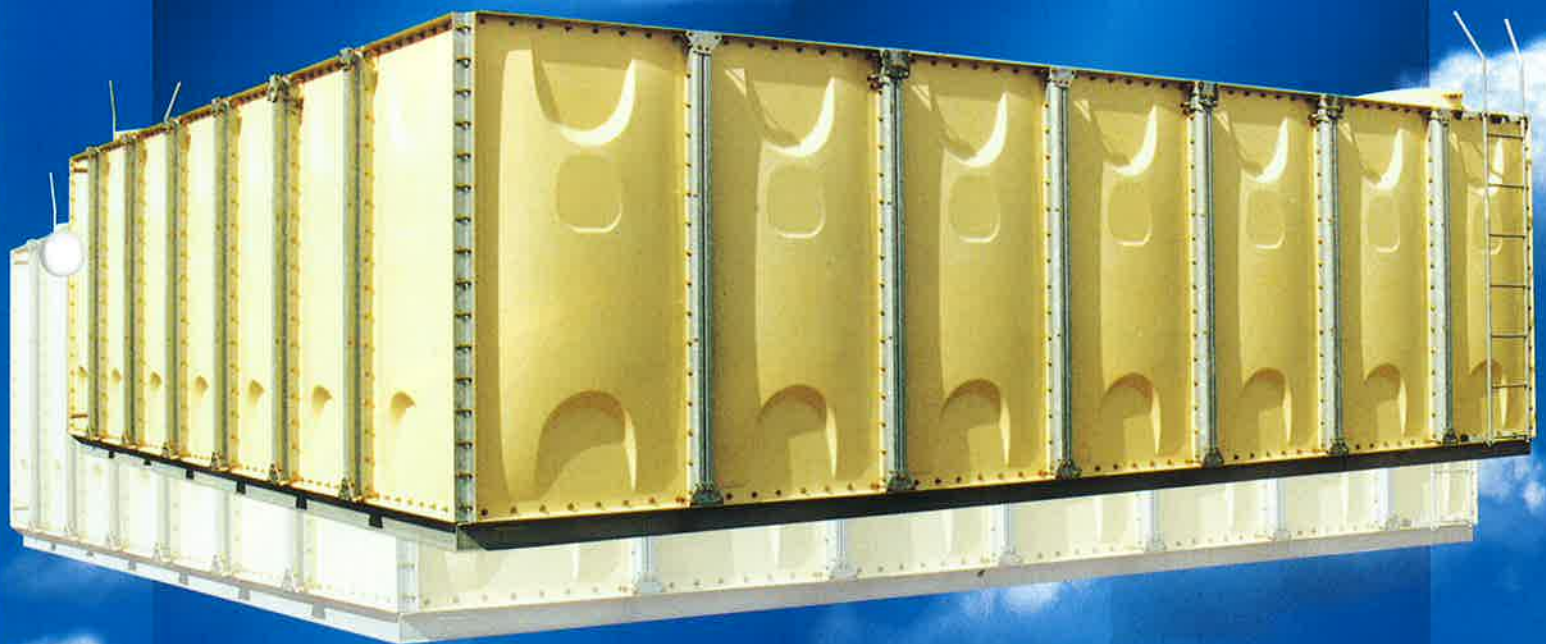


 **MITSUBISHI PLASTICS, INC.**

GRP(FRP) Panel type Water Tank

HISHITANK[®]



HISHITANK

delivered to various places

MITSUBISHI PLASTICS, INC. is the pioneer in Japan to manufacture product "GRP" (Glassfiber Reinforced Plastic) tanks under the name of "HISHI" GRP water tanks since 1962 for over 30 years. It has been an innovative and reliable leader in this industries serving a range of customers to their full satisfaction.

As the products of one of the renowned "MITSUBISHI" group companies, HISHI GRP water tanks are committed to meet stringent quality control in order to achieve the highest performances and meeting the demands of the customers worldwide.

MITSUBISHI PLASTICS, INC.'s research is always looking foward to upgrading and exploring new development of the water tank in anticipation of future needs. Hence the present panel type tank is developed with full flexibility in assemble to any capacity as required.

"HISHI"GRP water tank is now marketed to more than 20 countries worldwide.



GE 1,000m³ in U.A.E.
20×25×2mH 2units



GE 40m³ in BRUNEI
4×4×2.5mH



GSE 288m³ in BRUNEI
8×12×3mH



GSE 48m³ in JAPAN
3×4×4mH



GE 150m³ in JAPAN
9×10×2mH+2×6×2mH

Products gentle to the environment

There have been increasing concern about the protection of global environment, especially the conservation of ozone layer. MITSUBISHI PLASTICS, INC. noted this problem many years ago has been engaging in the development of heat insulation material which does not require the use of fluoro carbon compound.

Internal reinforcement not required

Up to 2m of height

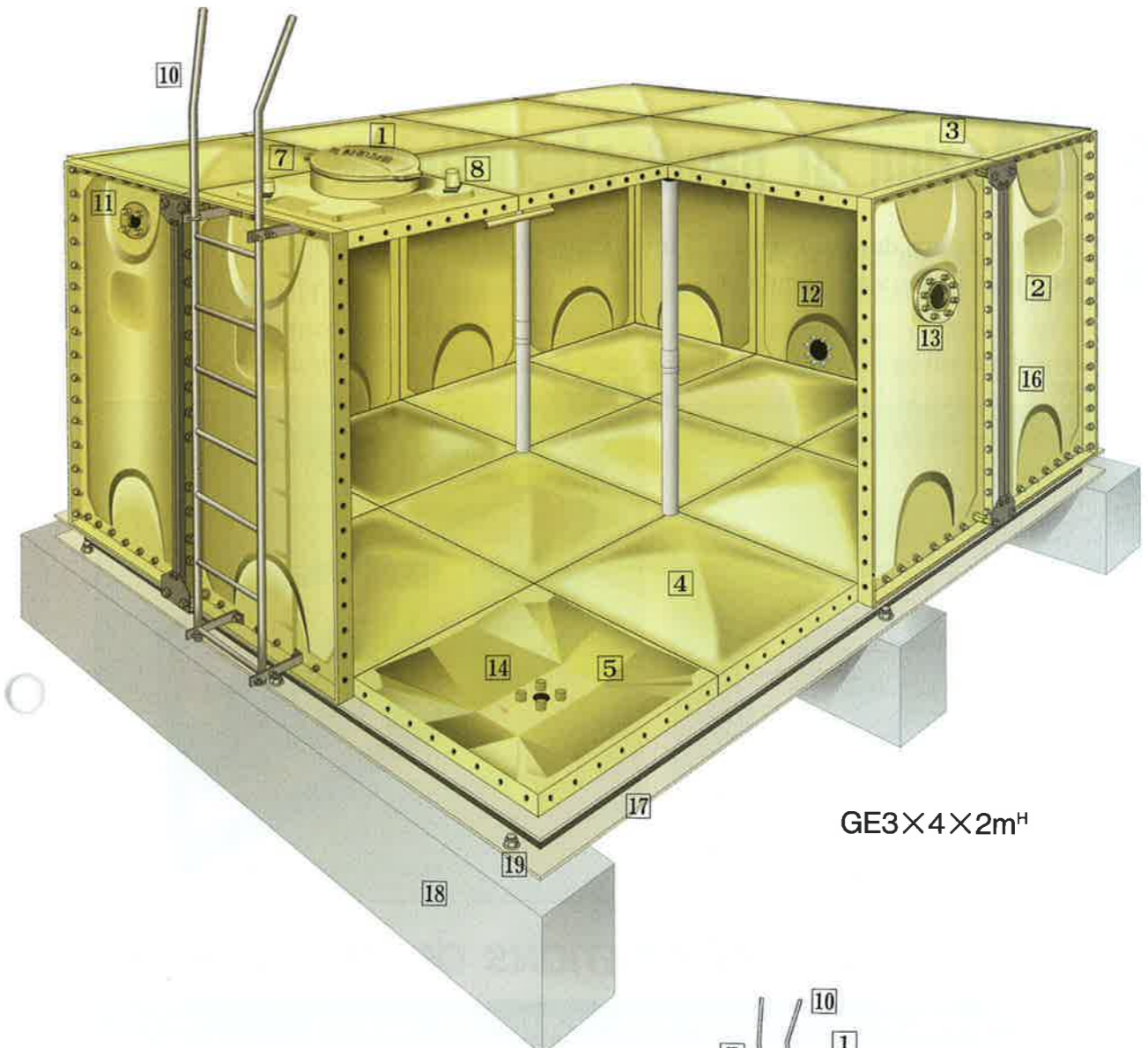
FEATURES OF HISHI G-PANEL TYPE TANK

- 1** STRONG & LONG DURABILITY as panels are made by MITSUBISHI PLASTICS, INC.'s excellent HOT PRESSED GRP technique.
- 2** EASY CLEANING & MAINTENANCE with no internal reinforcement material. (1.0mH~2.0mH type)
- 3** DRAINS COMPLETELY AT ROOF AND BOTTOM as it uses SPECIALLY DESIGNED ROOF PANEL and DRAINAGE PANEL.
- 4** PREVENT LEAKAGE COMPLETELY by using SPECIAL SEALING MATERIAL.
- 5** PREVENT THE ALGAE GROWTH IN THE TANK
GRP PANELS OF HISHITANK G PANEL TYPE are made by SMC HOT PRESS METHOD, which has high opaque quality. THIS OPAQUE QUALITY PREVENT THE EVAPORATION OF STERILIZER, AND STOP THE ALGAE GROWTH.
- 6** HISHITANK is assembled by using STRONG PANELS and REINFORCEMENT MATERIAL.
- 7** VARIOUS SHAPE TANKS ARE AVAILABLE by combination of strong panels.

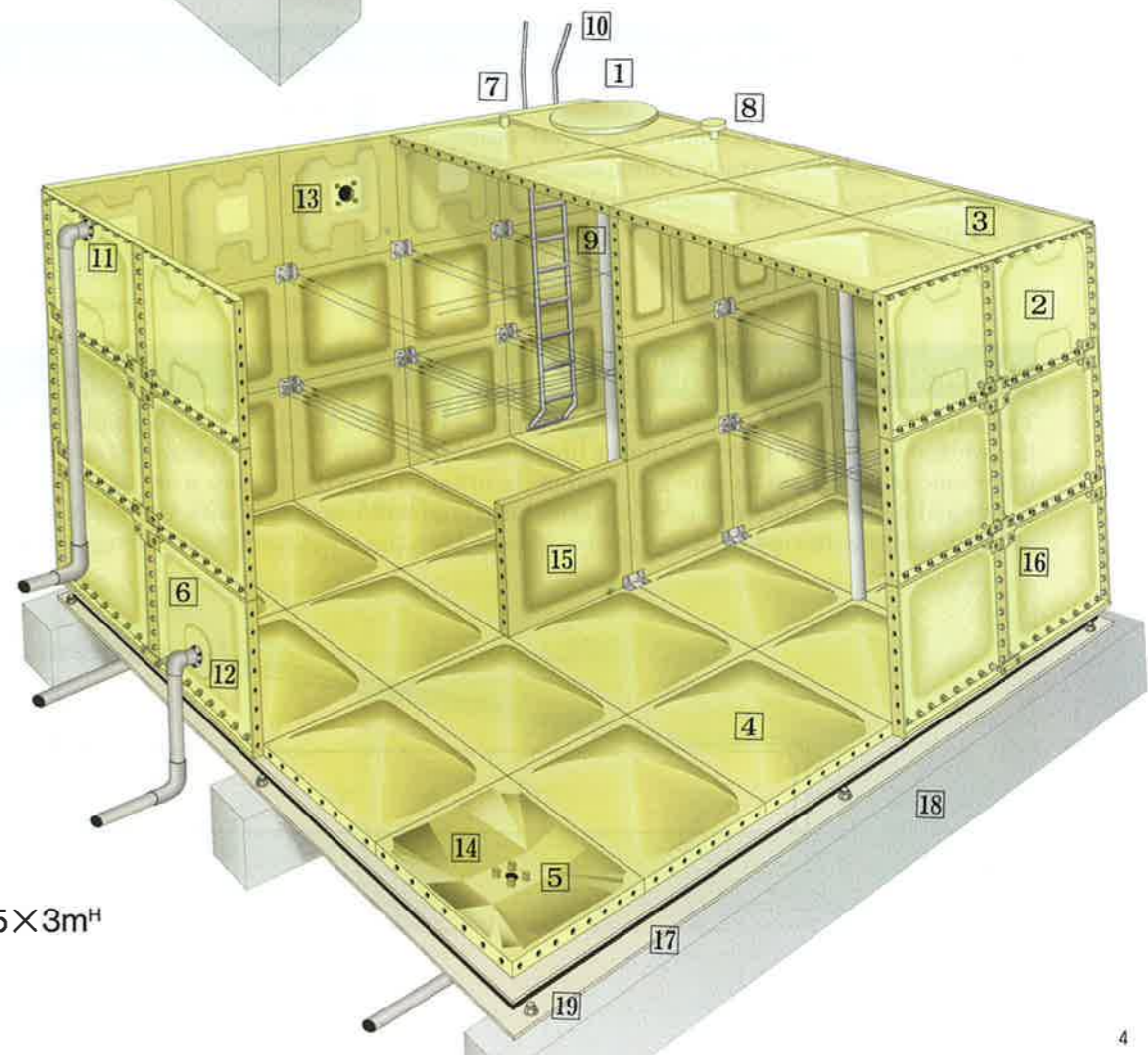
PARTS OF HISHITANK

1	Manhole panel
2	Side panel
3	Roof panel
4	Bottom panel
5	Drainage panel
6	Piping panel
7	Electrode base
8	Air ventilator
9	Internal ladder
10	External ladder
11	Inlet flange
12	Outlet flange
13	Overflow flange
14	Drainage flange
15	Partition panel
16	Reinforcement angle
17	Steel footing
18	Concrete foundation
19	Anchor bolt

NOTE: ITEM 17, 18 & 19 are not the tank parts, but only for your reference.



GE3x4x2m^H



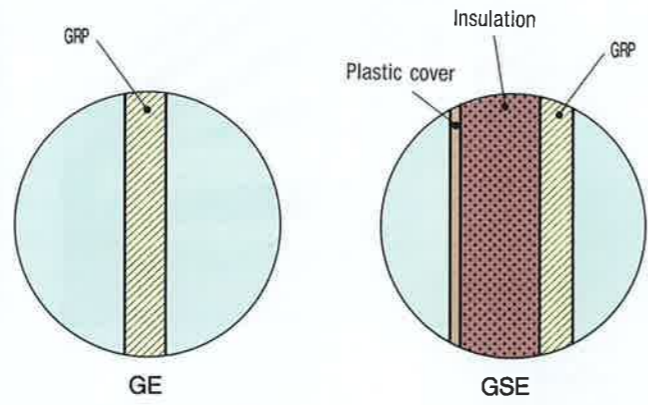
GE4(2+2)x5x3m^H

HISHI TANK
MITSUBISHI PLASTICS, INC.

MODEL CAPACITY M³

SERIAL NO.

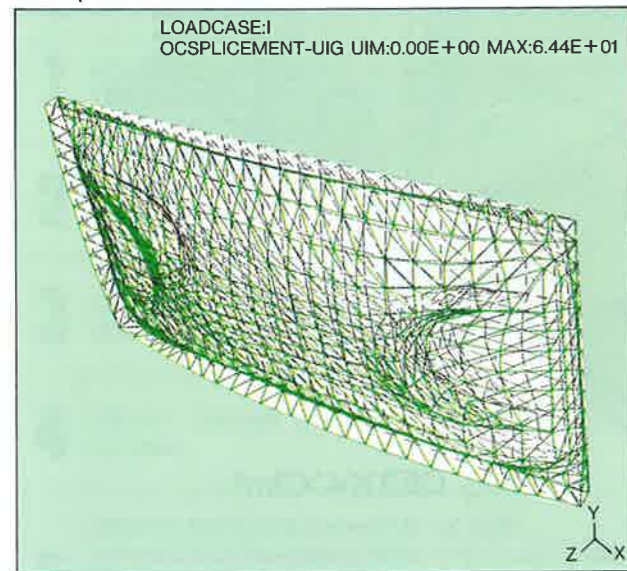
TYPE	PANEL
GE	GRP
GSE	GRP with insulation



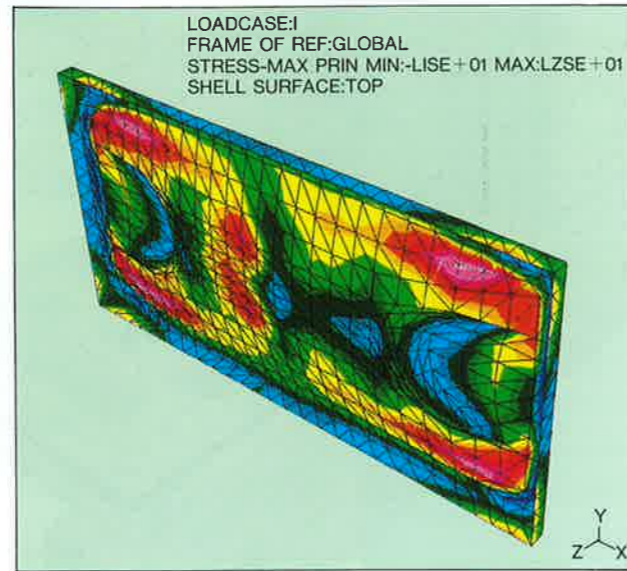
Design of panel strength

The panels are designed with "Finite Element Method" utilizing the latest large scale computer.

■ Displacement



■ Stress



QUALITIES & SPECIFICATIONS OF PANELS

Material: Hot pressed mould glass fiber reinforced plastics

Unsaturated Polyester Resin

Used for the panel is superior or equal quality with "Class UP-G", which are determined by JIS R 6919 and good quality in weatherability and water resistance.

Glass Fiber

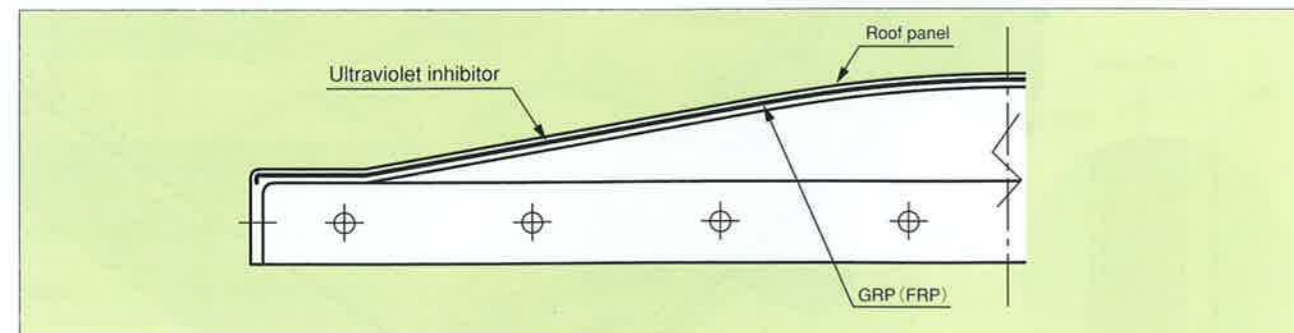
Used for the panel is non-alkaline quality which are determined by JIS R 3411, JIS R 3412 and JIS R 3413.

Filler, Pigment

Used for the panel does not affect to the quality of water and to the quality of the components of the panel.

New design against Ultraviolet

The surface of GRP panel is getting deterioration year by year due to the sunlight. Especially the surface of the roof, it is easy to have flaking of fiberglass because it is directly exposed much longer compared with other side of tank such as side and bottom. In order to stop the flaking from the roof panel, HISHITANK has developed a new technology in which panel material will composite with UV inhibitor. The UV inhibitor will not only stop the flaking of fiberglass but also to keep the good condition and longer life of tank.



Seeking hygiene

To keep the stored water clean is the first objective and the task which is sought by HISHITANK. In order to fulfill these requirements, HISHITANK has obtained clearance specified for the construction of water tank (Ministry of Construction Notification No.1674, enacted December 1, 1982) as well as for the hygienic checking and maintenance (Ministry of Welfare Notification No.194, enacted April 1, 1983) and City Water Law.

City water law in Japan



Water quality test

検査項目	検査結果	検査単位
臭気	異常なし	異常なし
色度	異常なし	異常なし
濁度	異常なし	異常なし
総硬度	異常なし	異常なし
カルシウム	異常なし	異常なし
マグネシウム	異常なし	異常なし
鉄	異常なし	異常なし
マンガン	異常なし	異常なし
亜鉛	異常なし	異常なし
銅	異常なし	異常なし
クロム	異常なし	異常なし
ニッケル	異常なし	異常なし
モリブデン	異常なし	異常なし
コバルト	異常なし	異常なし
マンガン	異常なし	異常なし
亜鉛	異常なし	異常なし
銅	異常なし	異常なし
クロム	異常なし	異常なし
ニッケル	異常なし	異常なし
モリブデン	異常なし	異常なし
コバルト	異常なし	異常なし
マンガン	異常なし	異常なし
亜鉛	異常なし	異常なし
銅	異常なし	異常なし
クロム	異常なし	異常なし
ニッケル	異常なし	異常なし
モリブデン	異常なし	異常なし
コバルト	異常なし	異常なし

Food container test



Design to prevent algae growth

The panels are made by Sheet Mould Compound (SMC) method to give low light transmittance. Thus low luminous intensity on the inner surface of the tank panels prevent the growth of algae.

HISHITANK panel



High light transmittable panel



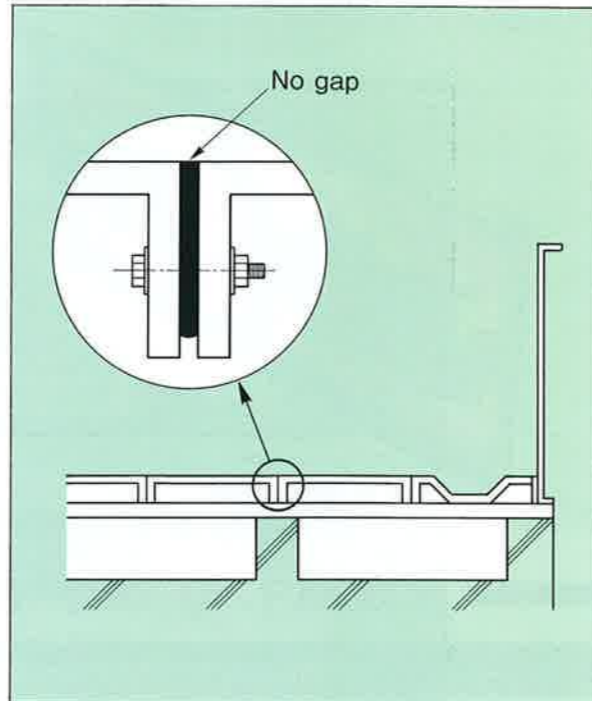
Outside reinforcement for easy maintenance

HISHITANK is designed to allow easy cleaning and maintenance to the internal of the tank.

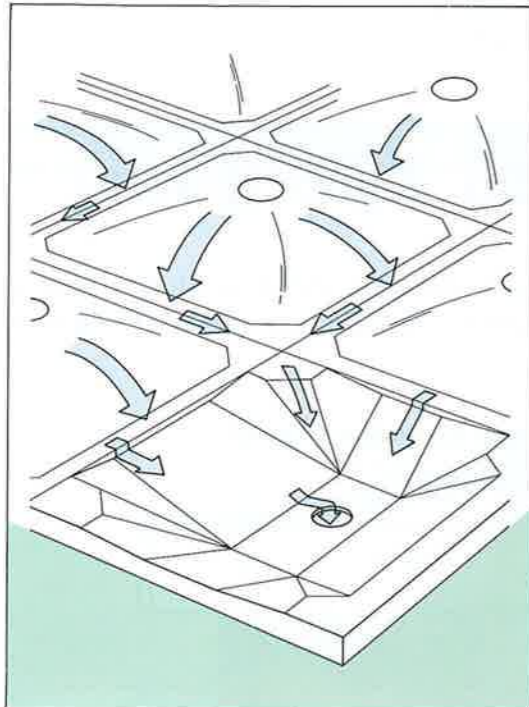
No internal bracing & tie
(up to 2m of height)



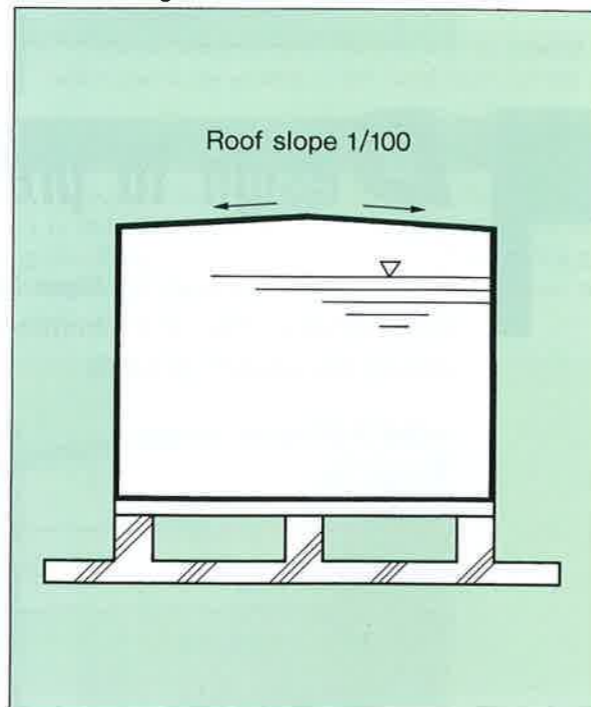
Having no gap between bottom panels
dust will not be accumulated



Bottom panels designed to
Drain Off Completely



Roof panels designed with 1/100 slope
to avoid stagnant water



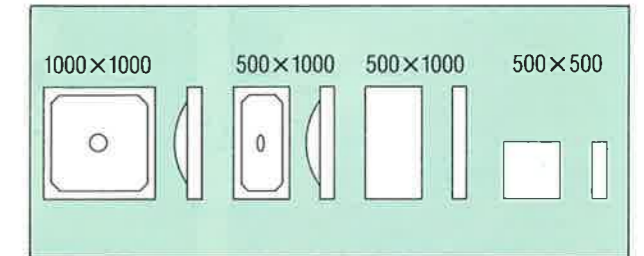
PARTS FOR HISHITANK G-TYPE

■SIDE PANEL

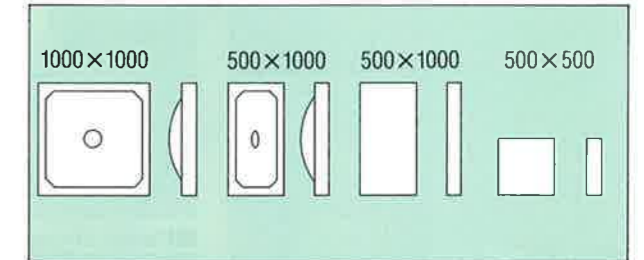
500H	500×1000	500×500
1000H	1000×1000	500×1000
1500H	1000×1500	500×1500
2500H	1000×2000	500×2000
2500H	1000×1000	500×1000
3000H	1000×1000	500×1000

■BOTTOM PANEL

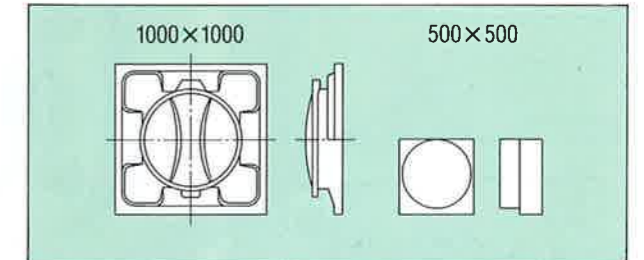
UNIT: mm



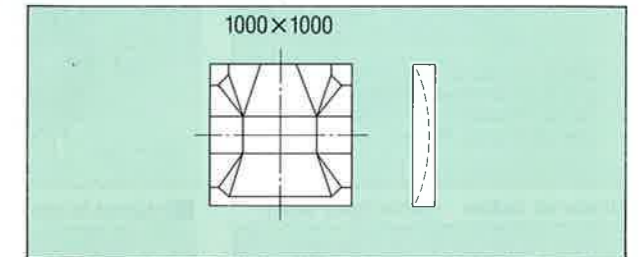
■ROOF PANEL



■MANHOLE PANEL



■DRAINAGE PANEL



■BOLTS & NUTS



■GASKET(PACKING)

