



SECTIONAL WATER STORAGE TANKS



**AN
ENGINEERING
COMPANY**

R & D

**CUSTOMER
FOCUS**

Esinoks, manufactures sectional water tanks, which provides relevant solutions for specific requirements and usage conditions.

Our products are produced in our high-tech. equipped manufacturing plant, located in Gebze – Kocaeli / Turkey.

Our customer relations are administrated by our highly competent front-line commercial staff, located in our Kocaeli head office and Ankara branch office.

Our aim is to sustainably provide “on time in full” service to our business partners.

Esinoks is an engineering company rather than an ordinary commercial structure; approaching every project as a customer spesific unique requirement.

High technology usage throughout the manufacturing process' is inevitable for Esinoks since we target to keep our products at and beyond global standards.

Customer needs focus, on time in full delivery and full-filling after sales service requirements are the main operating principles for us; therefore Esinoks has been a sustainable business partner for it's thousands of customers, rather than a single time supplier.



Saltuk Sencer Örum
Chief Executive Officer

We walked through growth and sustainable succession for two decades with the wind of our customers' satisfaction.

Our aim is to keep providing differentiated, high quality and above the line engineering products for our customers onwards.



SECTIONAL WATER STORAGE TANKS

Main factor that differentiates sectional water tanks from others is that; sectional water tanks are delivered by pieces and assembled at the place of installation. In case location change or capacity increases required, sectional tanks can be demounted and re-installed in a different location. Transportation of sectional water tanks is easy to handle and cost effective.

**EASY
TO
ASSEMBLE**

**IN ANY
EXPECTED
DIMENSIONS**

With this resistant, durable and safe system, water supply is secured and storage in any location with required capacity and dimensions is very well performable.

Sectional water storage tanks are manufactured with high-tech. CNC machinery and machine-tools. That's why, the quality and standardization of all products are sustainable.

**SUSTAINABLE
QUALITY**

**LONG
PRODUCT
LIFE**

Sectional water storage tanks are long-lived assets, since all components and fixings are completed in the plant before dispatch and no welding is practiced in the place of installation.

Since sectional water tanks are more hygienic than others, provides healthier water storage conditions.

HYGIENIC





PRESSED STEEL SECTIONAL WATER STORAGE TANKS

HIGH TECHNOLOGY

At first glance, all sectional water tanks look familiar; although the quality and strength of the product is distinguished by details, formed by the high-tech manufacturing processes.

All components of ESINOKS sectional water storage tanks are manufactured in high-accuracy CNC machines and precisely trimmed through 3D laser cutting machine, whom which ESINOKS is one of the few global users of this high-tech machinery.

HYGIENIC

Since the pressed panels' surface of ESINOKS sectional water storage tanks are smooth and glaze, tank surface resists against dust and dirt.

TIGHTNESS AND LEAKAGE RESISTANCE

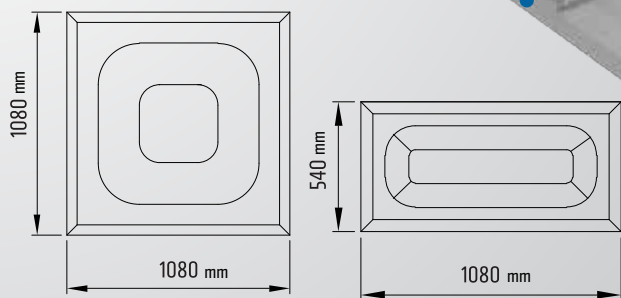
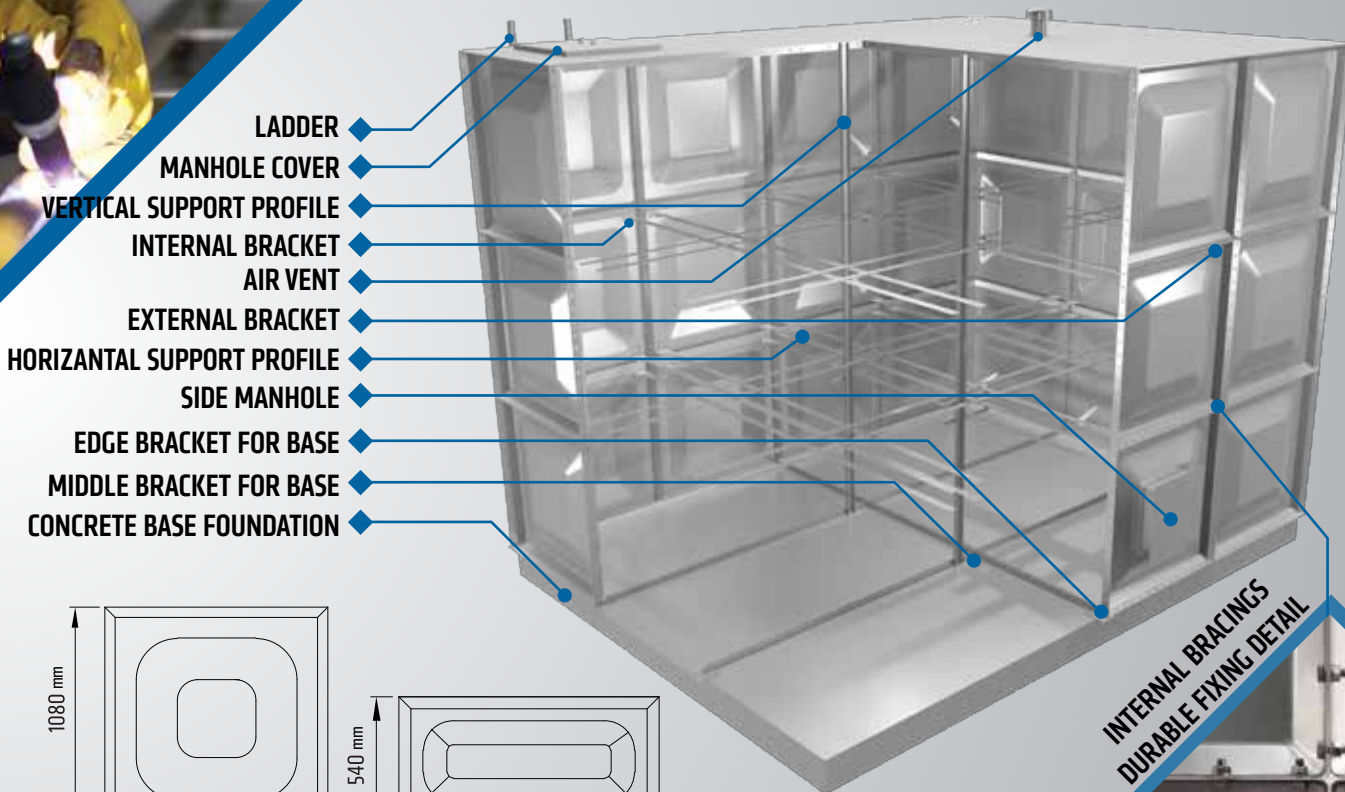
Tightness of sectional water storage tanks is assured by special sealants, specifically provided for product type and usage conditions. Since these flexible sealants are adopted precisely, Water leakage is not possible even under high temperature changes.

STRENGTH AND RESISTANCE

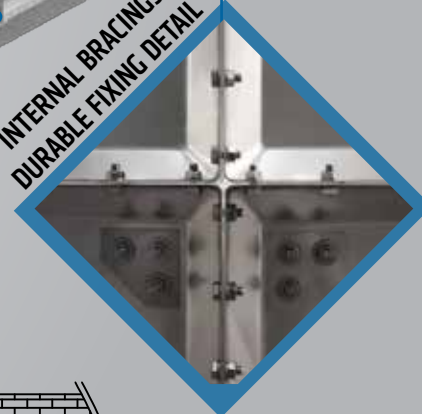
Sectional water tanks' mechanic resistance tests for various whether conditions, heavy weight resistance and earthquakes are practiced and documented via. official test environments.



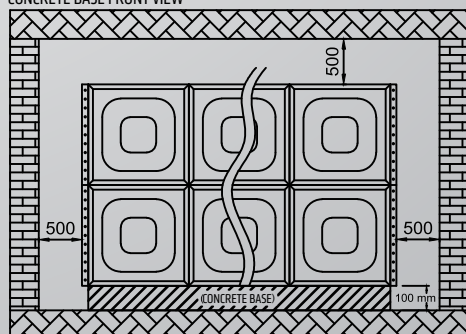
1080 PANEL



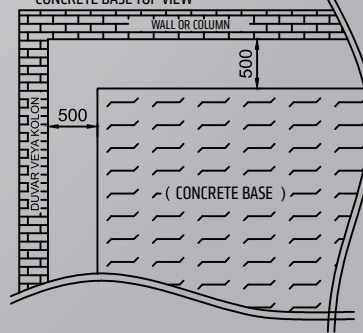
INTERNAL BRACINGS
DURABLE FIXING DETAIL



CONCRETE BASE FRONT VIEW



CONCRETE BASE TOP VIEW





1080 PRESSED STEEL SECTIONAL WATER STORAGE TANKS

DESIGN

Roof and base panels of ESINOKS 1080 sectional tanks are produced from stainless steel flat sheets and side panels are formed by hydraulic press machines.

Side panels can also be produced with dimensions of 540 mm x 1080 mm as well as 1080 mm x 1080 mm.

Side panels and roof-bottom flat sheets of sectional tanks are fixed with bolts and nuts.

Flat sheets (roof and bottom panels) are produced at high accuracy CNC Punching Machine.

Roof and bottom sheets of the tanks are assembled as internally flanged base and side panels are installed as externally flanged base.

Leakproofing of ESINOKS sectional water tanks are assured by using EPDM sealants.

Design and amount of internal bracings to be used inside the tank is projected depending on the size of the tank.

If drainage is necessary from the bottom panel, discharge of the whole amount of water in the tank is possible.

Thickness of the sectional water tanks' panels vary between 1,2 mm – 5 mm.

MATERIAL ALTERNATIVES

1. Carbon steel, Hot dip galvanized
(Galvanize coating is practiced, according to EN ISO 1461 standard)
2. AISI 304 (EN 1.4301)
3. AISI 316 (EN 1.4401)

3D LASER CUT TECHNOLOGY

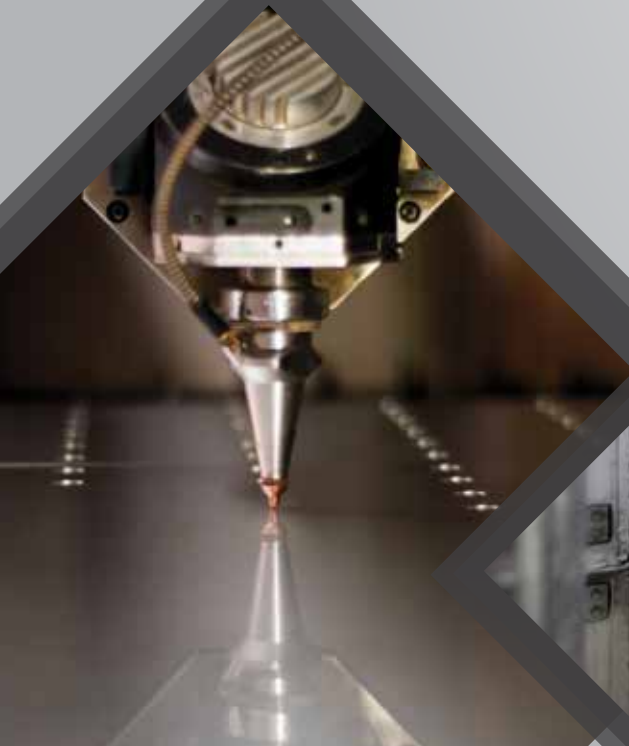
The form of the pressed panels are excellent and very precised because of high accuracy deep drawing dies.

Panels are formed by deep drawing process.

Every diffirent thickness of panels are formed in different deep drawing dies.

Flanges of the panels are trimmed by 3D CNC Laser Cutting Machine.

By the way panel's flanges are always in same dimension tolerance and quality.

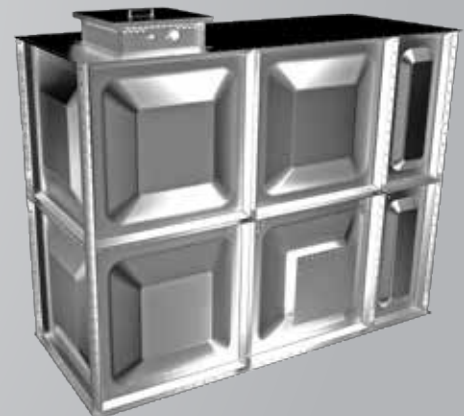
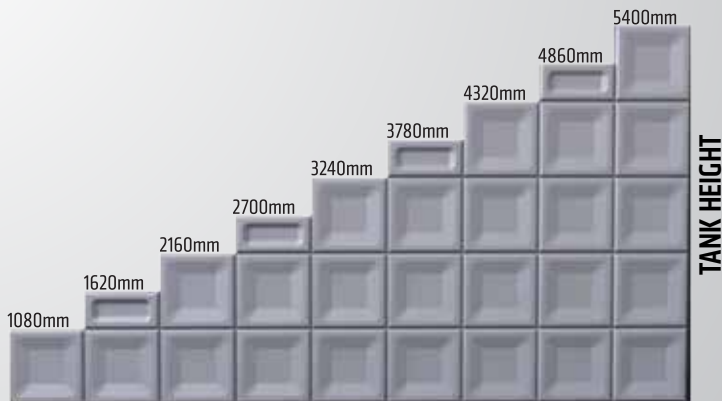


1080 PANEL

Fittings on the water tank and connection to plumbing system:
All fittings are located (welded) in ESİNOKS manufacturing plant before delivery.

All fittings dimensions, amounts and locations are defined by customer during sales order phase.

- ◆ 1080 tanks' roofs could be designed %100 leakageproof as an option.
This case results in eliminating the space loss in the tank and increases the resistance of the material against corrosion.
- ◆ If required, the sectional tank can be divided in to sections by separators (Please contact ESİNOKS R&D department.)
- ◆ In case necessary details are projected while doing the concrete base, it is possible to completely discharge the water in the tank.



**LEAKAGE PROOF ROOF PRESSED STEEL
SECTIONAL WATER STORAGE TANK**

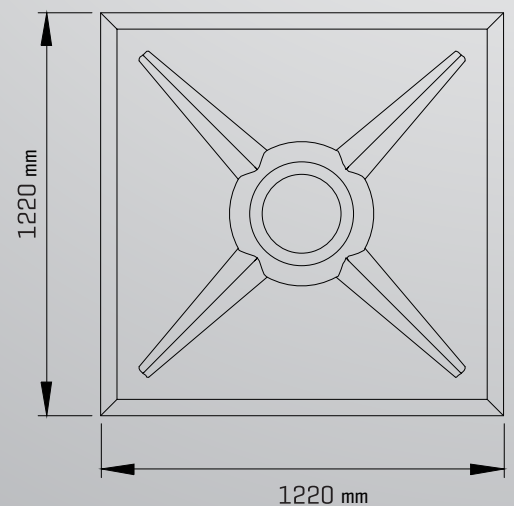
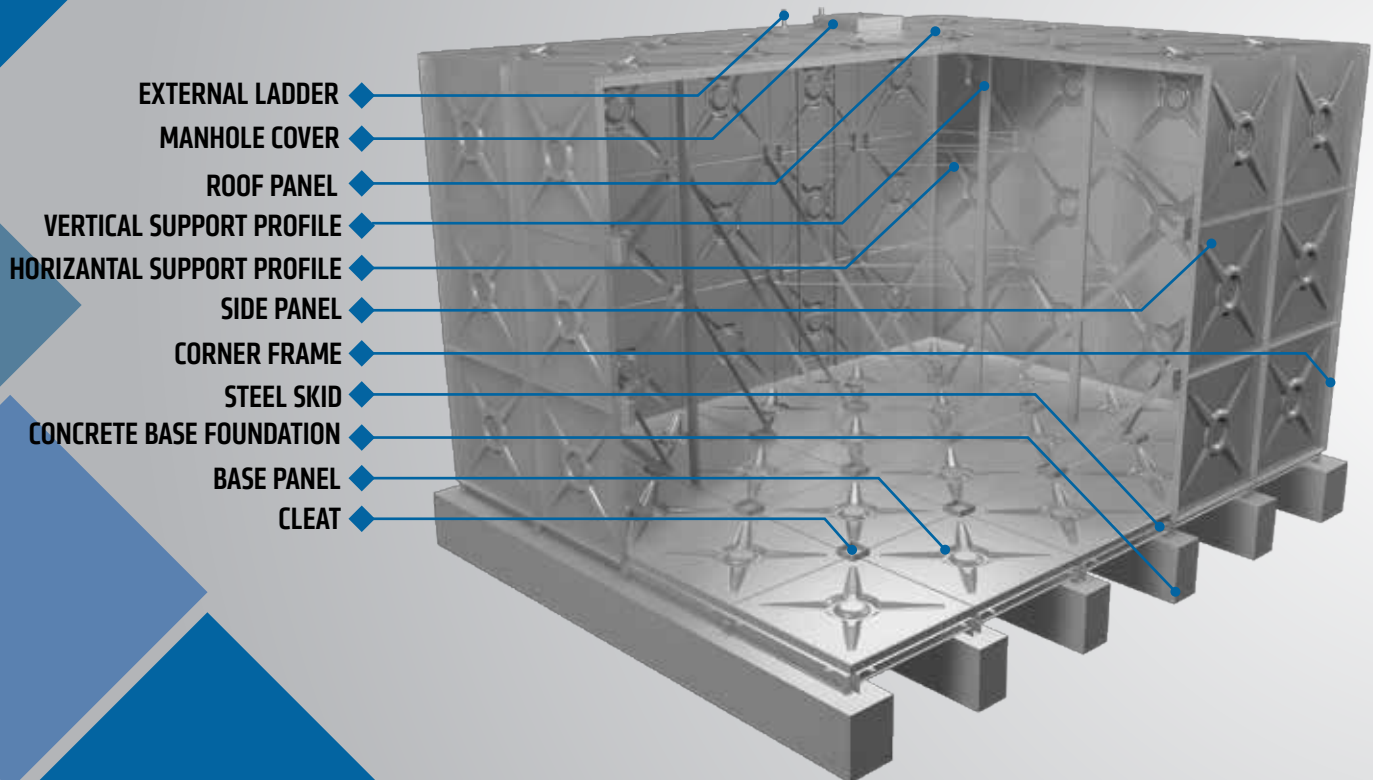
1080 SECTIONAL STAINLESS STEEL WATER TANKS CAPACITY TABLE

	108.EF.1.1.h (1080X1080)/mm	108.EF.1.2.h (1080X2160)/mm	108.EF.2.2.h (2160X2160)/mm	108.EF.2.3.h (2160X3240)/mm	108.EF.3.3.h (3240X3240)/mm	108.EF.3.4.h (3240X4320)/mm	108.EF.4.4.h (4320X4320)/mm	108.EF.5.5.h (5400X5400)/mm	108.EF.6.6.h (6480X6480)/mm	108.EF.7.7.h (7560X7560)/mm	108.EF.8.8.h (8640X8640)/mm	108.EF.9.9.h (9720X9720)/mm	108.EF.10.10.h (10800X10800)/mm	108.EF.15.15.h (16200X16200)/mm	108.EF.20.20.h (21600X21600)/mm	108.EF.25.25.h (27000X27000)/mm	108.EF.30.30.h (32400X32400)/mm
h = 1080 mm	1,3	2,5	5,0	7,6	11,3	15,1	20,2	31,5	45,3	61,7	80,6	102,0	126,0	283,4	503,9	787,3	1.133,7
h = 1620 mm	1,9	3,8	7,6	11,3	17,0	22,7	30,2	47,2	68,0	92,6	120,9	153,1	189,0	425,2	755,8	1.181,0	1.700,6
h = 2160 mm	2,5	5,0	10,1	15,1	22,7	30,2	40,3	63,0	90,7	123,5	161,2	204,1	251,9	566,9	1.007,8	1.574,6	2.267,5
h = 2700 mm	3,1	6,3	12,6	18,9	28,3	37,8	50,4	78,7	113,4	154,3	201,6	255,1	314,9	708,6	1.259,7	1.968,3	2.834,4
h = 3240 mm	3,8	7,6	15,1	22,7	34,0	45,3	60,5	94,5	136,0	185,2	241,9	306,1	377,9	850,3	1.511,7	2.362,0	3.401,2
h = 3780 mm	4,4	8,8	17,6	26,5	39,7	52,9	70,5	110,2	158,7	216,0	282,2	357,1	440,9	992,0	1.763,6	2.755,6	3.968,1
h = 4320 mm	5,0	10,1	20,2	30,2	45,3	60,5	80,6	126,0	181,4	246,9	322,5	408,1	503,9	1.133,7	2.015,5	3.149,3	4.535,0
h = 4860 mm	5,7	11,3	22,7	34,0	51,0	68,0	90,7	141,7	204,1	277,8	362,8	459,2	566,9	1.275,5	2.267,5	3.542,9	5.101,8
h = 5400 mm	6,3	12,6	25,2	37,8	56,7	75,6	100,8	157,5	226,7	308,6	403,1	510,2	629,9	1.417,2	2.519,4	3.936,6	5.668,7

* Please Contact ESİNOKS for alternative dimensions.

esinoks 1220 PRESSED STEEL SECTIONAL WATER STORAGE TANKS BS 1564

1220 Pressed Steel Sectional Water Storage Tanks provide necessary solutions for over 1000 m³ water storage volume requirements. This type of tanks could be located outdoor or on top of the towers. Steel sectional water tanks which are approved to BS 1564 have highest earthquake resistance. 1220 Pressed Steel Sectional Water Storage Tanks are designed according to BS 1564 type 2.



1220 PANEL



All surfaces of 1220 Pressed Steel Sectional Water Storage Tanks consist of pressed steel panels which are bolted with the others on site.

Panel sizes are 1220 mm x 1220 mm (4 ft x 4 ft)

ESİNOKS sectional water tanks are assured by using EPDM sealants.

All panels of the tanks are manufactured by deep drawing in hydrolic press machines.

Bottom of the tank can be designed as either internally or externally flanged base.

Internal bracing of the tanks are designed to equally divert the tension and manufactured from bracings steel profiles.

Thickness of the sectional water tank panels vary between 4 mm – 6 mm.

1. Carbon steel, Hot dip galvanized
(Galvanize coating is practiced, according to EN ISO 1461 standard)
2. AISI 304 (EN 1.4301)
3. AISI 316 (EN 1.4401)

The form of the pressed panels are excellent and very precised because of high accuracy deep drawing dies.

Fittings on the water tank and connection to plumbing system:

All fittings are located (welded) in ESİNOKS manufacturing plant before delivery.

All fittings dimensions ,amounts and locations are defined by customer during sales order phase .

DESIGN

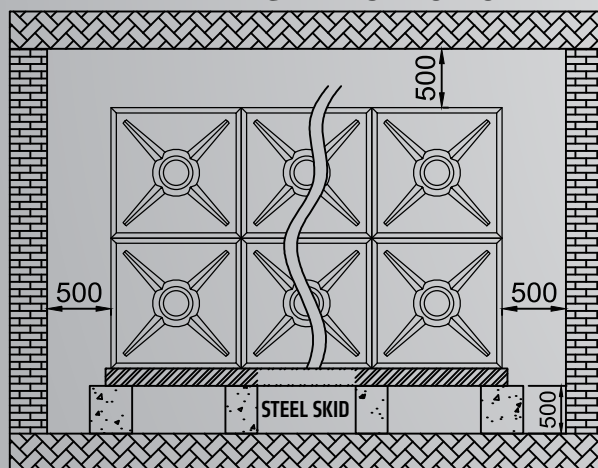
**MATERIAL
ALTERNATIVES**

**3D
LASER CUTTING
TECHNOLOGY**

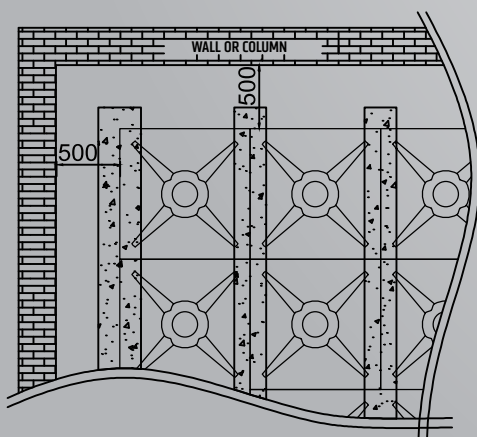


1220 PRESSED STEEL SECTIONAL WATER STORAGE TANKS LAYOUT PLAN

EXTERNALLY FLANGED BASE BOTTOM TYPE

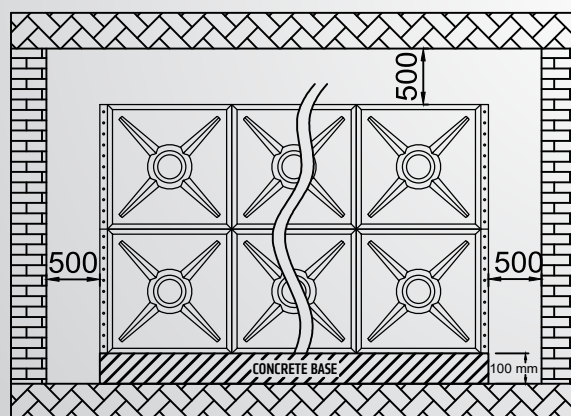


CONCRETE BASE FRONT VIEW

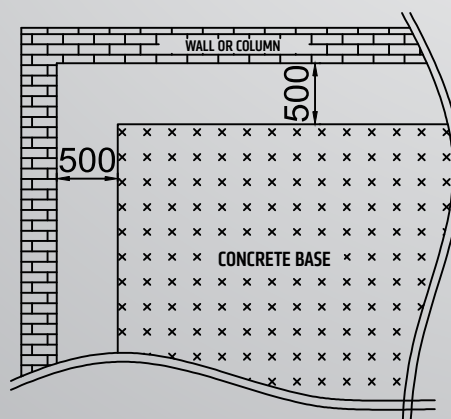


CONCRETE BASE TOP VIEW

INTERNALLY FLANGED BASE BOTTOM TYPE



CONCRETE BASE FRONT VIEW

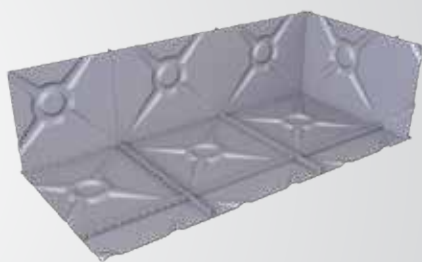


CONCRETE BASE TOP VIEW

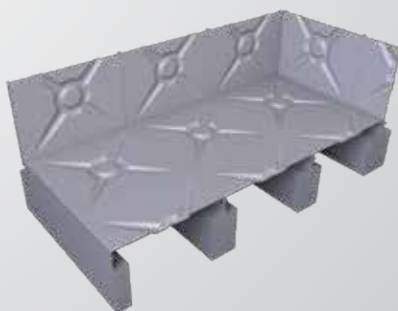
1220 PANEL

OPTIONS / LOCATING ALTERNATIVES :

- ◆ 1220 (4ft. X 4 ft.) sectional water tanks can be installed on tower top,
- ◆ Roof of the tanks, which will be located outdoor can be designed as sloping roof.
- ◆ Tanks can be designed as either internally or externally flanged base.
- ◆ Internally flanged based tanks can be able to be installed on a 10 cm height flat concrete base foundation.
- ◆ Tanks can be divided in to two or more compartments by placing partitions.
- ◆ For alternatives, please contact with ESİNOKS R&D department during sales offer.

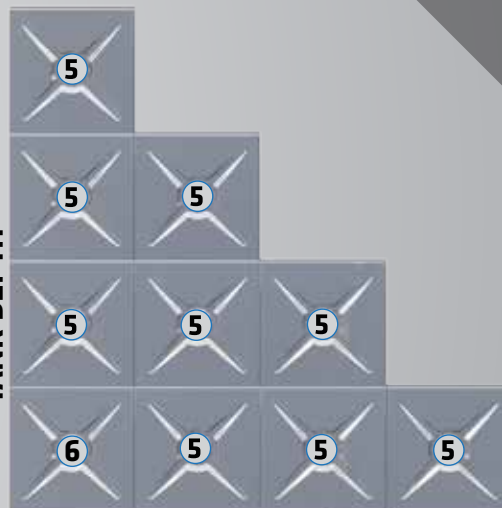


INTERNALLY FLANGED BASE DESIGN



EXTERNALLY FLANGED BASE DESIGN

TANK DEPTH



5 symbol shows panel thickness in mm

1220 SECTIONAL WATER STORAGE TANKS' CAPACITY CHART

	122.EF.1.1.h (1225X1225)mm	122.EF.1.2.h (1225X2450)mm	122.EF.2.2.h (2450X2450)mm	122.EF.2.3.h (2450X3675)mm	122.EF.3.3.h (3675X3675)mm	122.EF.3.4.h (3675X4900)mm	122.EF.4.4.h (4900X4900)mm	122.EF.5.5.h (6125X6125)mm	122.EF.6.6.h (7350X7350)mm	122.EF.7.7.h (8575X8575)mm	122.EF.8.8.h (9800X9800)mm	122.EF.9.9.h (11025X11025)mm	122.EF.10.10.h (12250X12250)mm	122.EF.15.15.h (18375X18375)mm	122.EF.20.20.h (24500X24500)mm	122.EF.25.25.h (30625X30625)mm	122.EF.30.30.h (36750X36750)mm
h = 1225 mm	1,8	3,7	7,4	11,0	16,5	22,1	29,4	46,0	66,2	90,1	117,6	148,9	183,8	413,6	735,3	1.148,9	1.654,4
h = 2450 mm	3,7	7,4	14,7	22,1	33,1	44,1	58,8	91,9	132,4	180,2	235,3	297,8	367,7	827,2	1.470,6	2.297,8	3.308,9
h = 3675 mm	5,5	11,0	22,1	33,1	49,6	66,2	88,2	137,9	198,5	270,2	352,9	446,7	551,5	1.240,8	2.205,9	3.446,7	4.963,3
h = 4900 mm	7,4	14,7	29,4	44,1	66,2	88,2	117,6	183,8	264,7	360,3	470,6	595,6	735,3	1.654,4	2.941,2	4.595,7	6.617,8
h = 6125 mm	9,2	18,4	36,8	55,1	82,7	110,3	147,1	229,8	330,9	450,4	588,2	744,5	919,1	2.068,0	3.676,5	5.744,6	8.272,2

• Please Contact ESİNOKS for alternative dimensions.

esinoks STEEL DELTAFORM WATER STORAGE TANKS

Side panels of Deltaform Water Storage Tanks are $\frac{1}{2}$ cylindrical shapes and corner panels are $\frac{3}{4}$ cylindrical formed shapes.

**NO
SPACE
WITH
THE WALL**

DESIGN

Since bolts and nuts of the tank's panels are inside of the tanks (internally flanged), installation space is not required around the tank which enables space efficiency..

Tank panels are manufactured by rolling and bending method at the hydrolic rolling and bending machines.

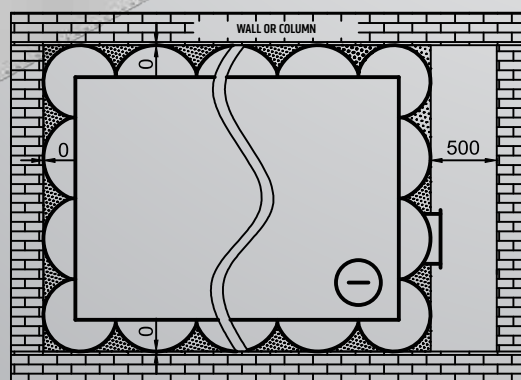
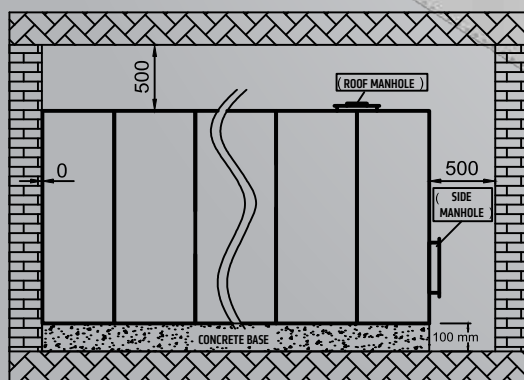
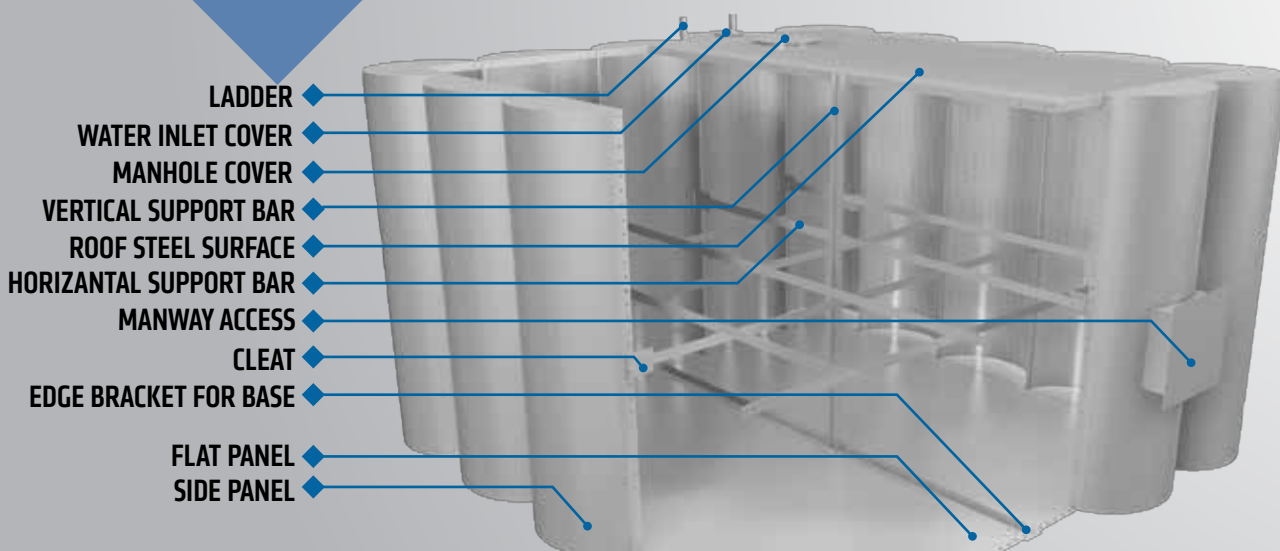
Leakproofing between the panels are provided by the specially selected sealant material depending on the liquid that will be stored in the tank. Installation of the tanks is very practical, tanks can be disassembled and carried to an other location.

HYGIENIC

Deltaform Water Storage Tanks do not keep dust on surface and do not shelter bacterias. Since UV resistance is 100%, Deltaform Water Storage Tanks do not allow algea growing.

SERVICE

Cleaning and maintenance manway access on the side panel enables entry in to the tank and allows easy cleaning / periodic maintenance of the tank inside.





DESIGN:

ESİNOKS Deltaform Water Storage Tanks consist of formed (at hydraulic rolling machine) side modules and flat sheet base and roof plates. These components are completely internally flanged installed.

Installation space around the tank is not required during assembling and can easily be assembled on flat surface; doesn't need additional concrete base foundation.

Side modules of Deltaform Water Storage Tanks are $\frac{1}{2}$ cylindrical and corner panels are $\frac{3}{4}$ cylindrical forms.

Deltaform modules and roof/bottom plates are assembled with bolts and nuts. Flat steel sheets are manufactured at precise punching machines. Side modules, roofs and base flat sheets are assembled as internally flanged.

ESİNOKS Deltaform Water Storage tanks are assured by using EPDM sealants. Design and amount of internal bracings used inside the tank is projected depending on the dimensions of the tank. If drainage is necessary from the bottom panel, discharge of the whole amount of water in the tank is possible.

Thickness of the sectional water tanks panels vary between 1,2 mm – 3 mm.

MATERIAL ALTERNATIVES:

1. Carbon steel, Hot dip galvanized
(Galvanize coating is practiced, according to EN ISO 1461 standard)
2. AISI 304 (EN 1.4301)
3. AISI 316 (EN 1.4401)

Fittings of the water tank and connection to plumbing system:

All fittings are located (welded) in ESİNOKS manufacturing plant before delivery.

All fittings dimensions, amounts and locations are defined by customers during sales order phase .

OPTIONS :

Roofs could be designed as %100 leakageproof as an option.

This case results in eliminating the space loss in the tank and increases the resistance of the material against corrosion.

Tanks can be divided in to two or more compartments by placing partitions.

In case necessary details are projected while doing the concrete base, it is possible to completely discharge the water in the tank.

•For any options, please contact ESİNOKS R&D department during quotation.



LONG SERVICE LIFE

The raw material of GRP panel is SMC (Sheet Molding Compound). SMC consist of chopped fiberglass and unsaturated resin. Since GRP panels are produced by hot press molding operation. GRP is a durable and long service life composite material.



DURABILITY

GRP panels are manufactured in heated molders under high tonnage presses. Form of GRP panels increase the tensile strength of itself. That's why GRP panels have resistance to hydrostatic water pressure layer.

GRP panels are UV resistance, stabilized and optional heat insulation can also be applied on the surface of the panels.

APPLICABLE FOR OUTDOOR

Since UV resistance is extremely high and heat transmission coefficient is very small, GRP panels can be installed at outdoor locations.

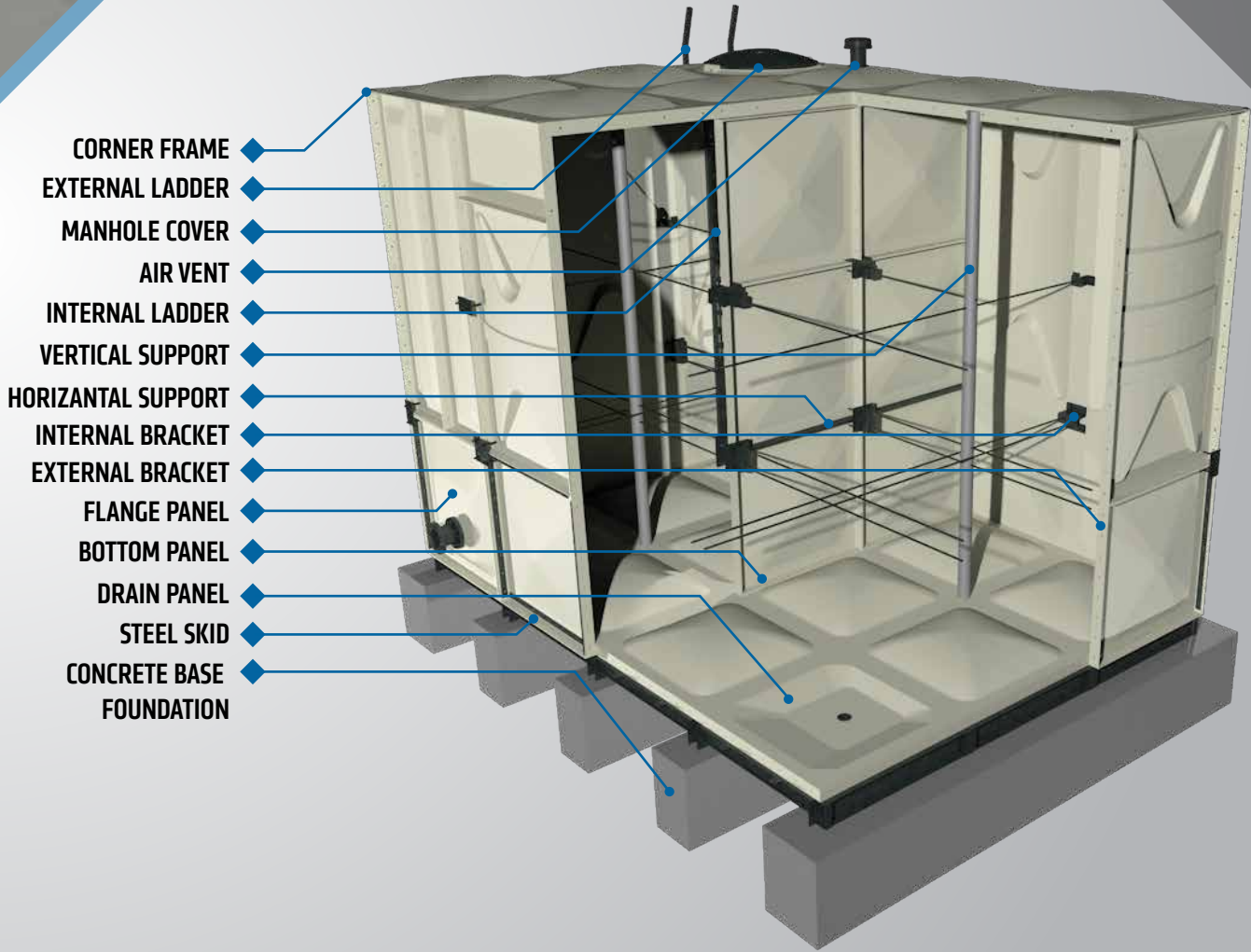
HEAT AND LIGHT PREVENTION

GRP Water Storage Tanks do not transmit the light inside; that's why the GRP Water Storage Tanks don't allow algae growing inside.

HYGIENIC

GRP Water Storage Tanks are approved to health and nutrition regulations.

GRP



COMPARISON OF ESİNOKS GRP SECTIONAL WATER STORAGE TANKS' VS. OTHER TANKS

	WATER QUALITY	WATER LEAKAGE	DURABILITY	TRANSPORT COST	MAINTENANCE	COROSION RESISTANCE	INSTALLATION COST
ESİNOKS GRP PANEL TANK	☐	☐	×	☐	☐	☐	☐
CONCRETE TANK	×	⊙	⊙	×	×	☐	⊙
STEEL TANK	⊙	☐	×	⊙	×	×	×
STAINLESS STEEL TANK	☐	☐	×	⊙	⊙	⊙	×
GRP HAND LAY-UP TANK	⊙	☐	×	×	⊙	☐	△

☐	EXCELLENT	△	GOOD	⊙	NORMAL	×	POOR
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What is GRP (Glass Reinforced Polyester) ?

GRP Sectional Water Storage Tanks are obtained from the process of chopped fiberglass and unsaturated polyester resin under high pressure and temperature.

Panels are manufactured at high tonnage press which molders heated up to 150 °C.

Smooth, highly resistant and cured panels are obtained through high molding and manufacturing technology.

ESINOKS GRP panels are WRAS approved, which represents the highest global standards.

Panels are also tested by TSE, in terms of health and nutrition regulations.

GRP Panels are UV stabilized; therefore do not allow algae growing inside the tank.

Thermal insulation:

Surface of GRP panels can be insulated by polyurethane coating as an option.

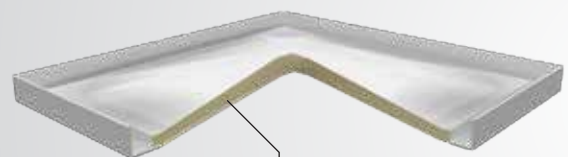
Insulation material doesn't contain neither CFC nor HCFC.

Basic Thermal Conductivity Comparison Table

Tank Type	Thermal Conductivity
	Kcal / m.hr°C (j / m hr°C)
Steel	37,0 (1,55 x 100.00)
GRP Insulated	0,15 (630)
GRP non-Insulated	0,02 (84)

Tank Type	Thermal Conductivity	
	Kcal / m².hr°C (j / m² hr°C)	
	Air - Panel - Air	Water - Panel - Air
Steel	14,3 (59,9)	24 (100)
GRP Insulated	3,0 (1,3)	5 (21)
GRP non-Insulated	0,9 (3,8)	1 (4)

INSULATED GRP PANEL



POLYURETHANE INSULATION LAYER

DESIGN

SAFETY COEFFICIENTS

Feature	Design Conditions
Seismic Coefficient	Horizontal seismic Kh:2/3 – Vertical Kv = 1/3 Designed to Horizontal seismic Load Kh:2/3 value.
Hydrostatic Pressure	Water level x0,1KGF /cm² (0,01 MPa) is designed to resist hydrostatic pressure.
Snow Load	60 kgf/m² (30 cm snow height) resistance.
Wind Load Resistance	250kgf/m² (2,55 x 10³ MPa) Even if the tank is empty, 60 m/sec. Resistance.
Opacity	Less than %0,1
Water Temperature	Up to 50 °C

HYGIENIC

HEAT
PREVENTION

GRP

Since bottom pannels are convex formed, bottom panels are highly resistant to water's static pressure and there is no water leakage risk.

Also concave designed drain panel enables draining dirth and mud collected at the bottom of the tank. GRP Sectional Water Storage Tanks can be divided in to compartments with help of specially designed partition panels.

GRP Water Storage Tanks can be designed both internally or externally flanged. If the tank is internally flanged, than the internal bracings and fixings coming in to contact with water is AISI 316 (EN 1.4401) stainless steel.

CONCRETE BASE

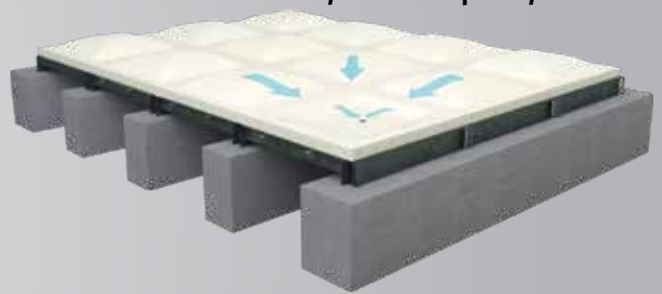
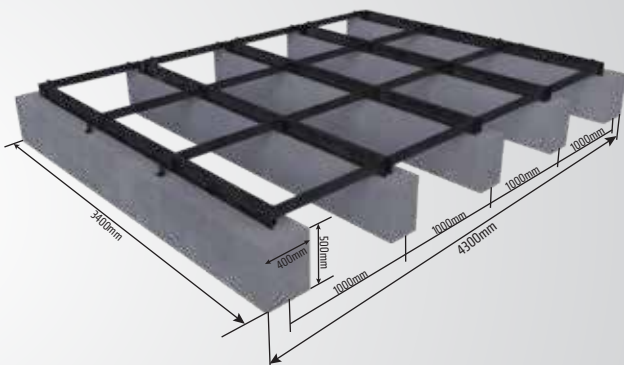
Concrete base design of the "externally flanged base tanks" is projected and recommended by ESİNOKS.

2 mm levelling tolerance for every 6m for lenght is required for concrete base, which will be constructed by the customer for externally flanged base tanks.

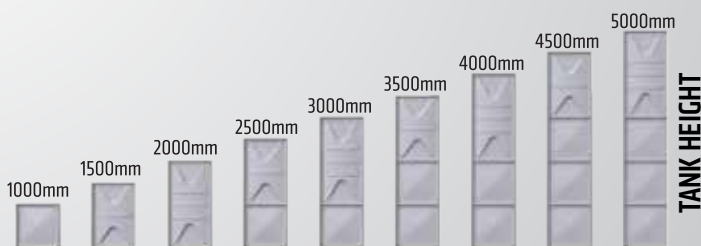
Following, steel skid base, which is produced by ESİNOKS is placed on the concrete base before installation.

Finally steel skid is levelled and final control is done with laser leveling equipment.

Esinoks' GRP Water Storage Tanks' base design allows to drain dirty water completely.



GRP SECTIONAL WATER STORAGE TANK CONCRETE BASE DESIGN



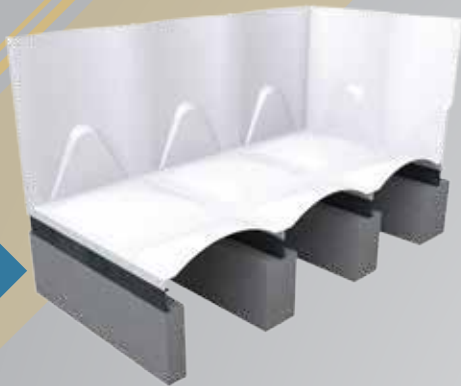
PHYSICAL CHARACTERISTICS	
Tensile strength	99,5 Mpa
Flextural strength	165 Mpa
Elasticity module	13800 Mpa
Barcol hardness	70
Density	1.8 kg/dm ³ (Steel 7.85 kg/dm ³)
Water absorption ratio	%0,01
Fiberglass ratio	%32,1
Opacity	None
Heavy metal	Not Detected
pH (20 °C)	6,9
Fenol	Not Detected

GRP SECTIONAL WATER TANKS' STORAGE CAPACITY SAMPLE TABLE

	GRP.EF/IFB.1.1.h (1000X1000)/mm	GRP.EF/IFB.1.2.h (1000X2000)/mm	GRP.EF/IFB.2.2.h (2000X2000)/mm	GRP.EF/IFB.2.3.h (2000X3000)/mm	GRP.EF/IFB.3.3.h (3000X3000)/mm	GRP.EF/IFB.3.4.h (3000X4000)/mm	GRP.EF/IFB.4.4.h (4000X4000)/mm	GRP.EF/IFB.5.5.h (5000X5000)/mm	GRP.EF/IFB.6.6.h (6000X6000)/mm	GRP.EF/IFB.7.7.h (7000X7000)/mm	GRP.EF/IFB.8.8.h (8000X8000)/mm	GRP.EF/IFB.9.9.h (9000X9000)/mm	GRP.EF/IFB.10.10.h (10000X10000)/mm	GRP.EF/IFB.15.15.h (15000X15000)/mm	GRP.EF/IFB.20.20.h (20000X20000)/mm	GRP.EF/IFB.25.25.h (25000X25000)/mm	GRP.EF/IFB.30.30.h (30000X30000)/mm
h = 1000 mm	1,0	2,0	4,0	6,0	9,0	12,0	16,0	25,0	36,0	49,0	64,0	81,0	100,0	225,0	400,0	625,0	900,0
h = 1500 mm	1,5	3,0	6,0	9,0	13,5	18,0	24,0	37,5	54,0	73,5	96,0	121,5	150,0	337,5	600,0	937,5	1.350,0
h = 2000 mm	2,0	4,0	8,0	12,0	18,0	24,0	32,0	50,0	72,0	98,0	128,0	162,0	200,0	450,0	800,0	1.250,0	1.800,0
h = 2500 mm	2,5	5,0	10,0	15,0	22,5	30,0	40,0	62,5	90,0	122,5	160,0	202,5	250,0	562,5	1.000,0	1.562,5	2.250,0
h = 3000 mm	3,0	6,0	12,0	18,0	27,0	36,0	48,0	75,0	108,0	147,0	192,0	243,0	300,0	675,0	1.200,0	1.875,0	2.700,0
h = 3500 mm	3,5	7,0	14,0	21,0	31,5	42,0	56,0	87,5	126,0	171,5	224,0	283,5	350,0	787,5	1.400,0	2.187,5	3.150,0
h = 4000 mm	4,0	8,0	16,0	24,0	36,0	48,0	64,0	100,0	144,0	196,0	256,0	324,0	400,0	900,0	1.600,0	2.500,0	3.600,0
h = 4500 mm	4,5	9,0	18,0	27,0	40,5	54,0	72,0	112,5	162,0	220,5	288,0	364,5	450,0	1.012,5	1.800,0	2.812,5	4.050,0
h = 5000 mm	5,0	10,0	20,0	30,0	45,0	60,0	80,0	125,0	180,0	245,0	320,0	405,0	500,0	1.125,0	2.000,0	3.125,0	4.500,0

* Please Contact ESİNOKS for alternative dimensions.

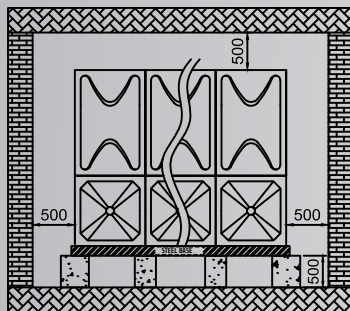
BASE DESIGN



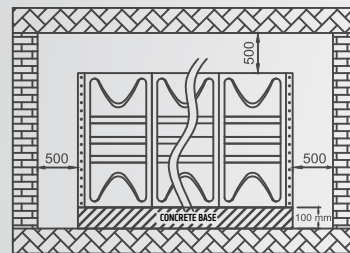
**EXTERNALLY FLANGED BASE GRP
SECTIONAL WATER STORAGE TANK**



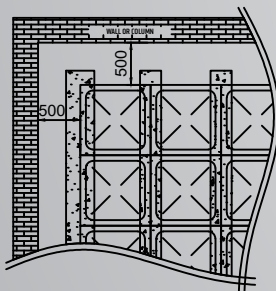
**INTERNALLY FLANGED BASE GRP
SECTIONAL WATER STORAGE TANK**



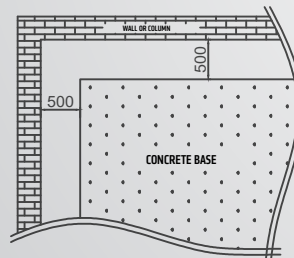
CONCRETE BASE FRONT VIEW



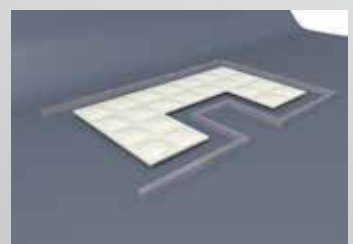
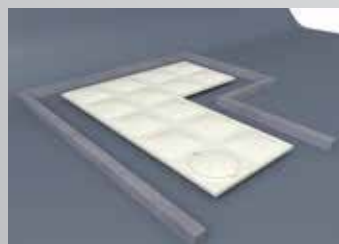
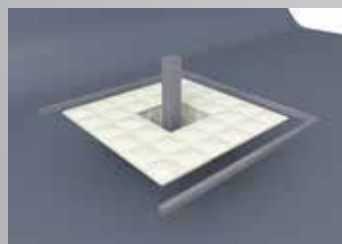
CONCRETE BASE FRONT VIEW



CONCRETE BASE TOP VIEW



CONCRETE BASE TOP VIEW



It is possible to design GRP Sectional Water Storage Tanks in various geometric forms such as “L” or “U” .
GRP Water Storage Tanks can be designed as to be installed concrete columns inside in case of necessity.

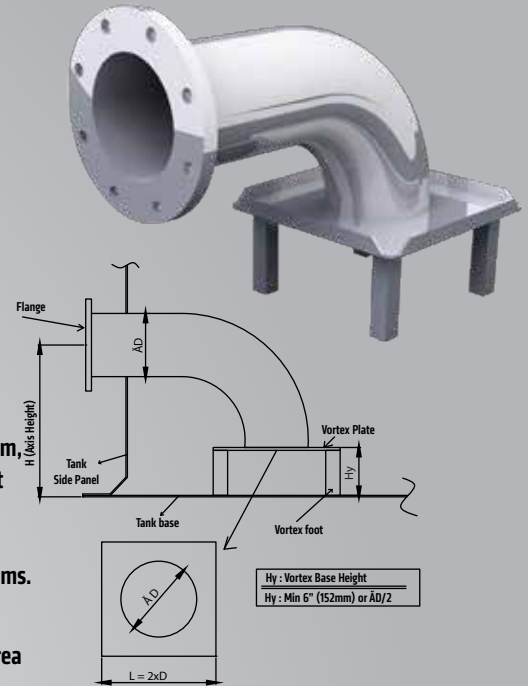
ANTI-VORTEX PLATES AND AIR VENT

Fire fighting systems are much more important subject today's conditions. Necessity of fighting systems is increasingly preserving it's importance. Doubtless; the most important component of a fire fighting system is the water storage tank, of which if doesn't operate during a fire case, the rest of the fire fighting equipments are useless. Sectional water storage tanks are exponentially being preferred for fire fighting systems.

During the pumping process of the water from the tank to the fire fighting system, sufficient amount of air needs to be able to enter in to the tank with a sufficient flow rate, otherwise suction vacuum will occur inside the tank. On the other hand, if enough air is not exhausted from the tank during the water is filling from inlet, than positive pressure will collapse the tank systems.

NFPA standards indicate that a air vent, which has at least 1,5 times cross section area dimension of either pump or tank water inlet cross section area (whichever one is larger) needs to be assembled on the tank. That's why compatible pump suction flanges are used on ESİNOKS sectional water tanks.

Anti-Vortex plate is placed in the tank at the pump suction area. ESİNOKS recommends usage of Anti Vortex in high flow rates (\geq DN 100) to conserve air-suction in to the pump.



VORTEX DATA				
ØD (DIAMETER)	"(INCH)	H (mm)	L=2D (mm)	Hy (mm)
DN 40	1 1/2	210	100	152
DN 50	2	240	130	152
DN 65	2 1/2	250	160	152
DN 80	3	270	180	152
DN 100	4	310	230	152
DN 125	5	350	280	152
DN 150	6	390	340	152
DN 200	8	460	440	152
DN 250	10	540	550	152
DN 300	12	630	650	165

HOT DIP GALVANIZE COATING

To protect steel from corrosion, metallic coating applications are applied to the surface of the steel. Hot dip galvanization method is a methallic plating, which has been used for over 150 years to protect steel from corrosion. Steel is dipped in to melted zinc and as the outcome of the diffussion, metallic reaction enables galvanize coating.

Galvanizing process :

Products choosen to be galvanized are alkalinizised to remove the oil or other chemicals that exist on the surface of steel.

Products are immersed in to %18 concentrated HCR acid and kept in till rust is completely removed.

Acid immersing process is followed by a water bath to remove the acid remains.

Rinsed products are immersed in to %30 NH4Cl-ZN flax at 50-70 °C to enable melted zinc to coat the surface of the steel.

Following flaks coating process, product in plunged in to melted galvanize to be coated at 445-465 °C.

Coating thickness of hot dip galvanized products is measured by transmission thickness gauge and convenient products are stowed and dispatched.

FOR GALVANIZE COATING REFERENCING ISO 1461 : 2009 STANDARTS

	MINIMUM		AVERAGE	
	Coating thickness (μ m)	Coating weight (g/m^2)	Coating thickness (μ m)	Coating weight (g/m^2)
6mm < Steel	70	505	85	610
3mm < Steel <= 6mm	55	395	70	505
1,5mm < Steel <= 3mm	45	325	55	395
Steel < 1,5mm	35	250	45	325





OVERSEAS PROJECTS

KOSOVO
SHEIKH ZAYED HOSPITAL

UKRAINE
CRIMEA MYRA OTEL

GEORGIA
BATUM SHERATON OTEL

AZERBAIJAN BAKU
OLYMPIC STADIUM

AZERBAIJAN BAKU
SOCAR TOWER

TURKMENISTAN
TURKMENBASHI AIRPORT

VENEZUELA - CARACAS
BUILDING PROJECTS

MALDIVES
TREE TOP HOSPITAL

CONGO KINTELE
CONGRESS CENTER

LIBYA - BINGAZI
UNIVERSITY

SOMALIA
MOGADISHU
HOSPITAL & AIRPORT

IRAQ
ERBIL GULAN TOWERS

IRAQ
BAGDAT RC COLA



HIGH SKILLED TECHNICIANS

ESINOKS products are packed on pallets to protect the tank components from damage.

Panels and all other tanks' parts are fixed by help of wooden cubes and tied on to the pallet with steel strips.

Installation of sectional tanks are done by our high skilled installation technicians.

Our products are delivered on time and after all necessary tests have been done. Following the completion of installation, tank is filled with water and leakage test is applied and certified for customer acceptance.

BASE DIMENSIONS

TANK TYPE		SKID BASE DESIGN	SKID DIMENSIONS	SKID LEVEL TOLERANCE
GRP	INTERNALLY FLANGED BASE	FLAT CONCRETE SKID	INTERNAL DIM. + 200mm	2mm at every 6m
	EXTERNALLY FLANGED BASE	1m STEEL SKID/CONCRETE PROP	INTERNAL DIM. + 200mm	2mm at every 6m
1080 SECTIONAL	ALL	FLAT CONCRETE SKID	INTERNAL DIM.	2mm at every 6m
1220 SECTIONAL	INTERNALLY FLANGED BASE	FLAT CONCRETE SKID	INTERNAL DIM. + 300mm	±3mm at every 1m
	EXTERNALLY FLANGED BASE	1,22m STEEL SKID/CONCRETE PROP	INTERNAL DIM. + 300mm	±3mm at every 1m
DELTAFORM	ALL	FLAT CONCRETE SKID	INTERNAL DIM. + 200mm	2mm at every 6m

BASE DESIGN

INSTALLATION SPACE

MINIMUM INSTALLATION SPACE REQUIREMENT AROUND THE TANK

TANK TYPE	TANK HIGHT INCLUDING THE SKID BASE < 2,5 M	TANK HIGHT INCLUDING THE SKID > 2,5 M		ON THE TANK	UNDERNEATH THE TANK	
		If scaffold is required	on the Tower		INTERNALLY FLANGED BASE	EXTERNALLY FLANGED BASE
GRP	EXTERNAL DIM. + 500mm	EXTERNAL DIM. + 750mm	EXTERNAL DIM. + 850mm	500 mm	0	500 mm
1080 SECTIONAL	EXTERNAL DIM. + 500mm	EXTERNAL DIM. + 750mm	EXTERNAL DIM. + 850mm	500 mm	0	500 mm
1220 SECTIONAL	EXTERNAL DIM. + 500mm	EXTERNAL DIM. + 750mm	EXTERNAL DIM. + 850mm	500 mm	0	500 mm
DELTAFORM	EXTERNAL DIM.	EXTERNAL DIM.	EXTERNAL DIM.	500 mm	0	500 mm



OUR PRIORITIES

Our aim is not only serving high quality products and service excellency but also we want to serve our customers a splendid experience as well.

We know that to focus on %100 customer satisfaction make us different .

Loyalty of our customers is invaluable.

As ESİNOKS family, we considers the importance of water for continuation of life and care about environment and human health.

Our priority is the sustainable environment consciousness, therefore we recycle the our scrap materials, which we use for our manufacturing processes.

We believe that to be a public-spirited person is demonstrated not only by the words but also by all means of manner and attitude.

To be a public-spirited person is not only by the words it is based on basis of all behaviours.

Contributing to national economy, prioritizing human health & safety, not comprimising social responsibilities, R&D focus and exploring innovation are basic inevitable principles for ESİNOKS.

**CUSTOMER
SATISFACTION**

**ENVIRONMENTAL
CONSCIOUSNESS**



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Sectional Water Storage Tanks

