



# **SANITARY PRODUCTS**



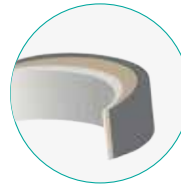
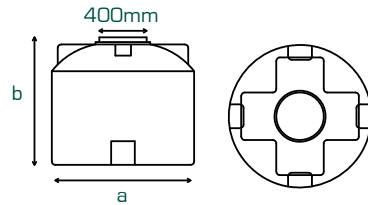
# POLYETHYLENE TANKS

## TECHNICAL DESCRIPTION

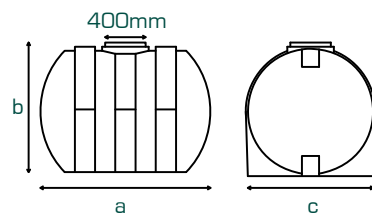


### Triple-Layer Tanks

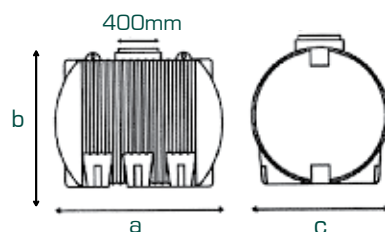
NTG's **Triple-Layer Tanks** maintain the temperature and purity of the water inside them. Nassar Techno Group developed an **innovative external solid-skin layer** to protect the fluid inside the tanks from UV light. The tanks' second layer, made of **polyethylene foam**, provides thermal insulation and adds **strength** to the tanks. The internal layer is **free from colorants** and has been **FDA approved** for contact with liquid. NTG's Triple-Layer Tanks are thus suitable for the storage of purified water and come with a **20-year warranty**.



Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CTH08	80	500	540	0.5
CTH3	300	750	880	0.75
CTH5	500	900	1 020	0.75
CTT1	1 000	1 220	1 090	1
CTT2	2 000	1 500	1 380	1.5
CTT3	3 000	1 650	1 660	1.5
CTT4	4 000	1 770	1 880	1.5
STT1	1 000	940	1 740	1



Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
HTT1	1 000	1 370	1 150	1 070	1
HTT2	2 000	1 700	1 400	1 320	1.5



Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
ZTT3	3 000	1 950	1 630	1 490	1.5

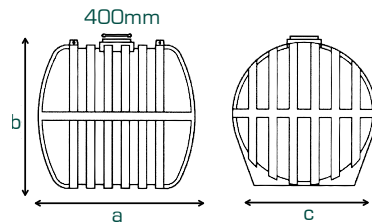
\* Total height of tank including cover

# TECHNICAL DESCRIPTION



## Golden Tanks

NTG's **Golden Tanks** have a unique triple-layer frame that provides extra reinforcement. They hold an additional capacity of **300 liters** and have the option of being installed underground. They come with a **40-year warranty**.

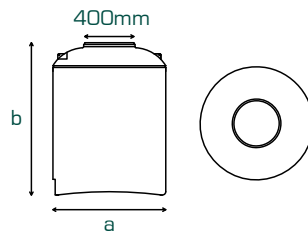


Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
GTT1	1 300	1 740	1 210	1 120	1
GTT2	2 300	2 030	1 400	1 350	1.5



## Economical Tanks

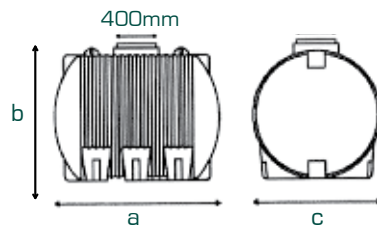
NTG's Economical Tanks come with a 10-year warranty and can be used for domestic applications.



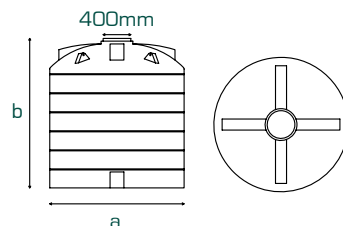
Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
ETH3	300	650	1 060	0.75
ETH5	500	750	1 400	0.75
ETT1	1 000	1 000	1 410	1
ETT2	2 000	1 270	1 750	1.5
ETT2+	2 500	1 270	2 150	1.5

## Underground Tanks

Some NTG's Tanks are designed for underground installation and are the most heavy-duty models available. They come with a 10-year warranty.



Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
ZHDT3	3 000	1 950	1 630	1 490	1.5



Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CHDT6	6 000	1 950	2 220	1.5
CHDT8	8 000	2 170	2 430	2
CHDT10	10 000	2 400	2 600	2

\* Total height of tank including cover

## TECHNICAL DESCRIPTION

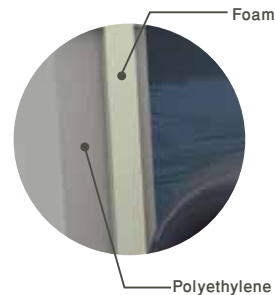


### Underground Modular Tank

NTG's Underground Modular Tanks have an **unlimited capacity** starting at 13,000 liters. Their special **multiple-stage** assembly guarantees their **quality and strength**. The Modular Tanks are built with **triple-layer** Polyethylene-Polyurethane-Polyethylene outer walls that are between 5 and 10 cm thick, making them by far the **most durable** in their class.

#### Applications

- Storage of water, diesel and other liquids
- Rain harvesting
- Pairing with sewage settling tank from NDG XL2 up to NDG XL8



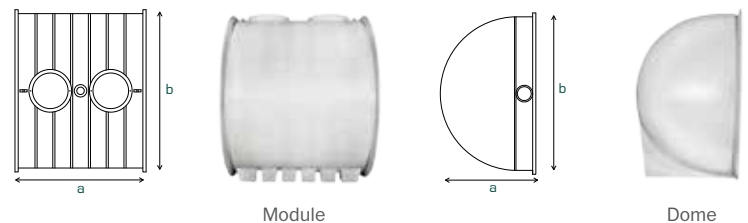
DIN # Z-55.6-75



German Din Certified Products

Type	Capacity (liters)	a (mm)	b (mm)	Connector (inch)
DOME	3 450	1 350	2 280	3
MODULE	6 150	1 850	2 280	-

Type	Capacity (liters)	Length (mm)	Diameter (mm)	Connector (inch)
MTT13	13 000	4 570	2 280	3
MTT19	19 000	6 430	2 280	3
MTT25	25 000	8 290	2 280	3
MTT31	31 000	10 150	2 280	3
MTT37	37 000	12 010	2 280	3

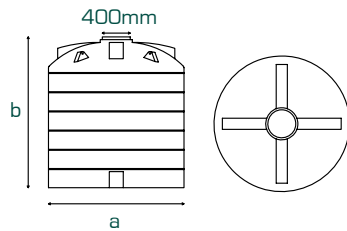


## TECHNICAL DESCRIPTION

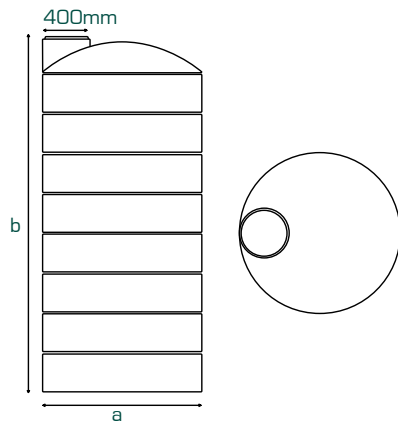


### Large-Capacity Tanks

NTG has a **line of tanks** that have a capacity of **up to 22,000 liters**. They come with a **10-year warranty**.

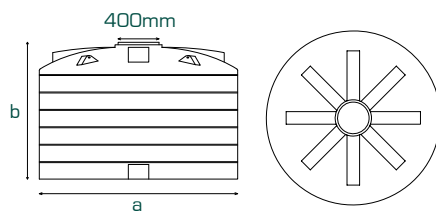


Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CTT6	6 000	1 950	2 220	1.5
CTT8	8 000	2 170	2 430	2
CTT10	10 000	2 400	2 600	2



Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CTT20	20 000	2 340*	5 050	2

- At ring level



Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CTT22	22 000	3 400	2 770	2

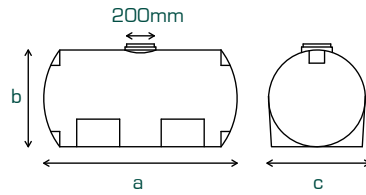
\* Total height of tank including cover

# TECHNICAL DESCRIPTION

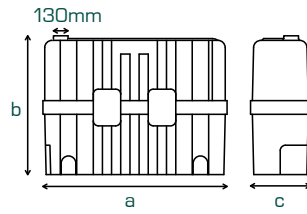


## Special-Sized Tanks

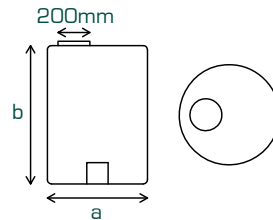
NTG has a line of Special-Sized Tanks that can fit in spaces of various sizes and shapes, and can hold diverse liquids such as diesel. They come with a 10-year warranty.



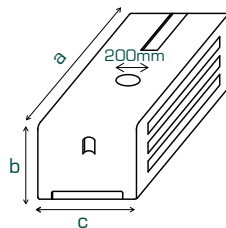
Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
HTH2	200	1 240	560	490	0.5
HTH4	400	1 270	720	650	0.75
LHH5	500	1 550	830	770	0.75
LHT1	1 000	1 680	1 040	990	1
LHT2	2 000	2 400	1 190	1 120	0.75



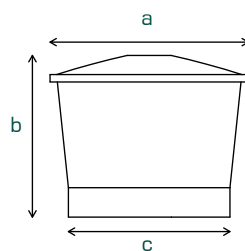
Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
RTT1	1 350	2 010	1 540	630	1



Type	Capacity (liters)	a (mm)	b* (mm)	Connector (inch)
CTH06	60	470	490	0.5
CTH1	100	480	700	0.5



Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)	Connector (inch)
RTH3	300	1 060	540	720	0.75



Type	Capacity (liters)	a (mm)	b* (mm)	c (mm)
VTT1	1 000	1 400	1 170	1 120

\* Total height of tank including cover

## UNDERGROUND INSTALLATION

NTG's underground storage tanks must be installed properly to prevent tank damage.

The tanks require **backfill material** to provide as much as 90 percent of the tanks' support.

### Instructions

1. Before installing an NTG underground tank, **tighten the fittings** to ensure there are no leaks.
2. Excavation must be **deep enough** to allow a minimum backfill bed of 300 mm **covering the whole bottom**.
3. Laying a **concrete slab** as bottom support is highly recommended, especially for tanks subject to heavy loads.
4. The tanks must not be covered more than **350 mm** from the top of the tank.
5. In **stable soil** conditions, the excavation must be large enough to allow a minimum of **600 mm** between adjacent tanks, and between the tank's sides and the walls of the pit.
6. Where the **soil is soft**, a larger pit is required to support the tank. In these types of conditions, it must be large enough to allow a **minimum of half the tank's diameter** from the ends and sides of the tank to the pit's walls.

### Backfilling

First, place **300 mm of backfill** evenly around the tank. The backfill must extend completely beneath the tank's bottom to provide necessary support. There should be **no voids underneath** the tank.

Distribute the backfill evenly around the tank until it is even with the tank's top.

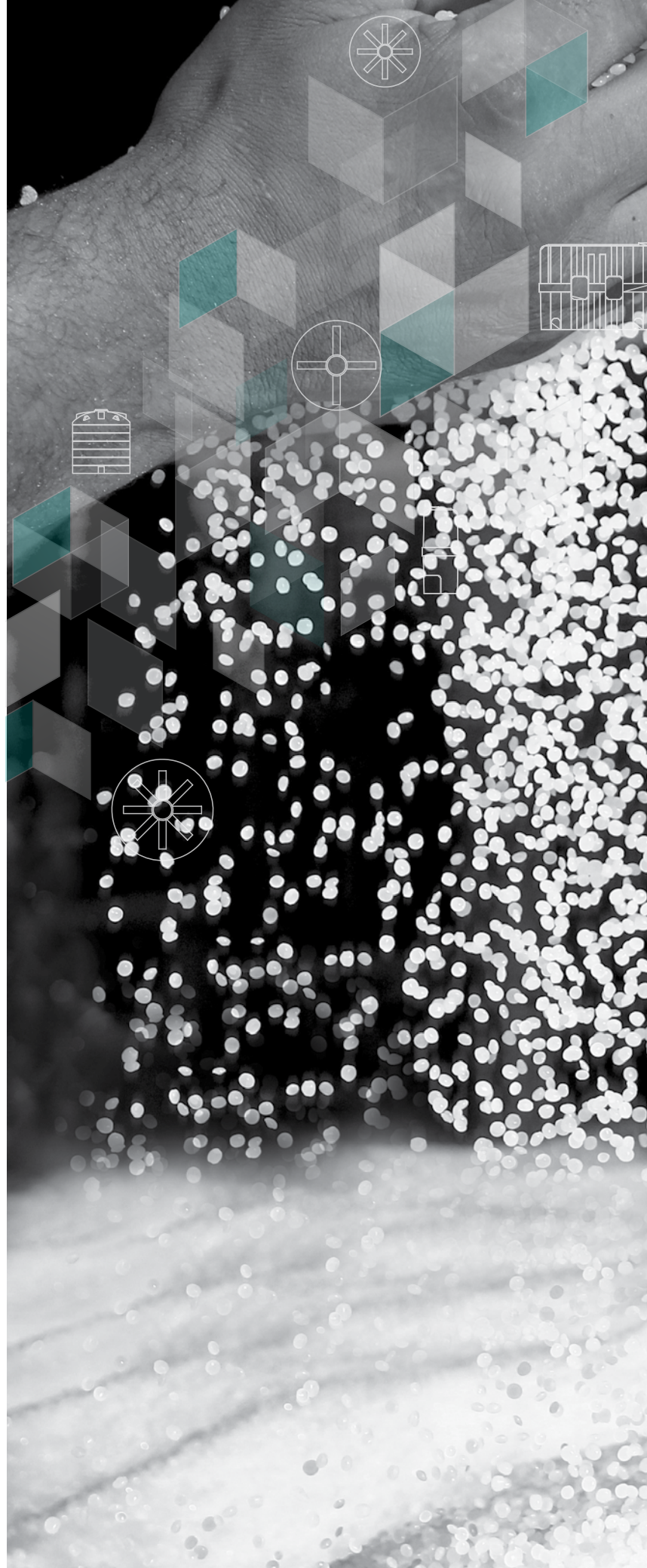
During backfilling, continuously fill the tank with water so that the water level inside the tank stays the same as the backfill level outside the tank. The water level inside the tank must **never exceed the backfill level** in the pit during installation. **The tank must be vented.**



## TANK SPECIFICATIONS

### NTG TRIPLE-LAYER POLYETHYLENE STORAGE TANK SPECIFICATIONS

- 1.** Manufactured with food-grade polyethylene (FDA approved) that complies with international standards. Suitable for the storage of drinking water
- 2.** The external (first) layer manufactured with UV-stabilized materials, ensuring color retention and long life. The concentrated opaque colors prevent the growth of algae if exposed to direct sunlight
- 3.** The middle (second) layer manufactured with PE foam for both thermal insulation and structural integrity
- 4.** The inner (third) layer which is in direct contact with the liquid is manufactured with natural PE material
- 5.** Manufactured in one piece
- 6.** Suitable for fuel (diesel oil) and chemicals' storage
- 7.** One BSPT female brass connector embedded in the tank used for outlet and washout
- 8.** Upon request, connectors can be fitted as required (BSPT male threaded)
- 9.** Resistant to all weather conditions and temperatures between  $-40^{\circ}\text{C}$   $+60^{\circ}\text{C}$
- 10.** 20-year warranty against defective material and/or workmanship (conditions apply)





## TANK SPECIFICATIONS

### NTG ONE AND TWO-LAYER POLYETHYLENE STORAGE TANK SPECIFICATIONS

1. Manufactured with food-grade polyethylene (FDA approved) that complies with international standards. Suitable for the storage of drinking water
2. Manufactured with UV-stabilized materials, ensuring color retention and long life. The concentrated opaque colors prevent the growth of algae if exposed to direct sunlight
3. Manufactured in one piece
4. Suitable for fuel (diesel oil) and chemicals' storage
5. One BSPT female brass connector embedded in the tank used for outlet and washout
6. Upon request, connectors can be fitted as required (BSPT male threaded)
7. Special tanks are available for underground installation
8. Resistant to all weather conditions and temperatures between -40°C and +60°C
9. 10-year warranty against defective material and/or workmanship (conditions apply)

## TANK SPECIFICATIONS

### NTG UNDERGROUND MODULAR TANK SPECIFICATIONS

1. Manufactured with food-grade polyethylene (FDA approved) that complies with international standards. Suitable for the storage of drinking water
2. 5-cm thick double-wall structure: PE-BA-PE (Polyethylene-Foam-Polyethylene)
3. Manufactured with UV-stabilized materials, ensuring color retention and long life. The concentrated opaque colors prevent the growth of algae if exposed to direct sunlight
4. The unique double-wall design that incorporates BA material provides thermal insulation and structural integrity, allowing underground installation
5. Unlimited capacity starting at 13,000 liters with a unique multiple-stage assembly
6. Suitable for fuel (diesel oil) and chemicals' storage
7. 3-inch BSPT female brass connector embedded at the extremity (dome) of the tank used for outlet and washout
8. Upon request, connectors can be fitted as required (BSPT male threaded)
9. Resistant to all weather conditions and temperatures between  $-40^{\circ}\text{C}$  and  $+60^{\circ}\text{C}$
10. 20-year warranty against defective material and/or workmanship (conditions apply)



# RAW MATERIAL QUALITY



## NTG-Versalis Agreement

**Versalis S.p.A.**, a wholly-owned subsidiary of **ENI S.p.A** and Italy's largest petrochemical industry leader, collaborates with **Nassar Techno Group S.A.L.** to acquire the optimal Linear Medium Density Polyethylene materials, which suit the industry's products and comply by composition with European Union (Commission regulation (EU) No. 10/2011) and US regulations (Code of Federal Regulations, 2012 FDA Title 21 § 177.1520 – paragraph (c)) that are currently in force for plastic materials intended to come into contact with foodstuffs.

**Versalis S.p.A** confirms that its products are manufactured using the Good Manufacturing Practices (GMP) recommended by Regulation (EC) 2023/2006, and that the quality management systems ensure the traceability required by Regulation (EC) No. 1935/2004.

### Data Sheet

#### Product Description

**Versalis** Linear Medium Density Polyethylene (**LMDPE**), with antioxidants and UV stabilizers, is suitable for roto-molding applications. Items manufactured with **Versalis LMDPE** show good mechanical properties and high environmental stress crack resistance (**ESCR**).

#### Main Application

Thanks to its good mechanical properties and high **ESCR**, **Versalis LMDPE** is recommended for the production of high-capacity containers

#### General

Additive	Antioxidant	UV Stabilizer
Features	Antioxidant	Good UV Resistance      Medium density
	Food Contact Acceptable	High ESCR (Stress Crack Resist.)
Uses	Containers	
Forms	Pellets	
Processing Method	Rotational Molding	

#### Mechanical (ASTM)      Nominal Value      Unit      Test Method

Tensile Stress (Break, Injection Molded)	20.0	MPa	ISO 527-2
Flexural Modulus (Injection Molded)	730	MPa	ISO 178

# TANK CERTIFICATES



NTG Triple-Layer Tanks are certified by MTPA Weimar German Official Testing Center.

## TESTS RESULTS

### PHYSICAL PROPERTIES

#### Compressive strength of the sandwich parallel to the wall test

Property	Value	Test standard
Average of compressive stress parallel at $\epsilon=10\%$	$\sigma_{D  }=14,1$ MPa	DIN 53291

#### Compressive strength of the sandwich perpendicular to the wall test

Property	Value	Test standard
Average of compressive stress perpendicular at $\epsilon=10\%$	$\sigma_{D\perp}=3,48$ MPa	DIN 53291

#### Tensile strength of the sandwich parallel to the wall test

Property	Value	Test standard
Average of tensile strength	$\sigma_{max}=8,92$ MPa	DIN EN ISO 1798

#### Bending strength of the sandwich with outer layer under tension test

Property	Value	Test standard
Average of bending tensile strength	$\sigma_{BZ}=19,08$ MPa	DIN EN 178

#### Thermal resistance of the sandwich test

Property	Value	Test standard
Thermal resistance at 10 °C mean temperature	$R_{10u}=(0,101 \pm 0,003)$ m <sup>2</sup> K/W	DIN EN 12664: 2001-05

#### Watertightness test

Result
No leakage was noticed. The tank is watertight

### RAW MATERIAL PROPERTIES

#### Chemical assay according to German Drinking Water Ordinance test

Property	Value	Test standard
Testing result	The inner layer material is harmless for storage of drinking water and food storage	TrinkwV 2001