



NEW

# TANK ELEVATOR<sup>®</sup>



Innovation system in the stormwater storage



[www.geoplast.it](http://www.geoplast.it)



## NEW ELEVATOR<sup>®</sup> TANK USE AND FEATURES



**NEW ELEVATOR<sup>®</sup> TANK** is the solution for large and compact stormwater storage tanks. With the modular **NEW ELEVATOR<sup>®</sup> System** from **Geoplast** any custom cistern shape, depth and size is formed very quickly for the in situ concrete pour.

### ADVANTAGES

- IN SITU CAST REINFORCED CONCRETE STORMWATER STORAGE AND ATTENUATION TANKS
- CUSTOM SHAPE AND SIZE CISTERNS
- TANK DEPTH UP TO 2.5 m (8.20 ft)
- CREATES A HIGH LOAD-BEARING CAPACITY STRUCTURE
- FORMWORK SIMPLE AND FAST TO LAY
- EASY TO INSPECT
- LIGHT
- NO HOISTING EQUIPMENT REQUIRED



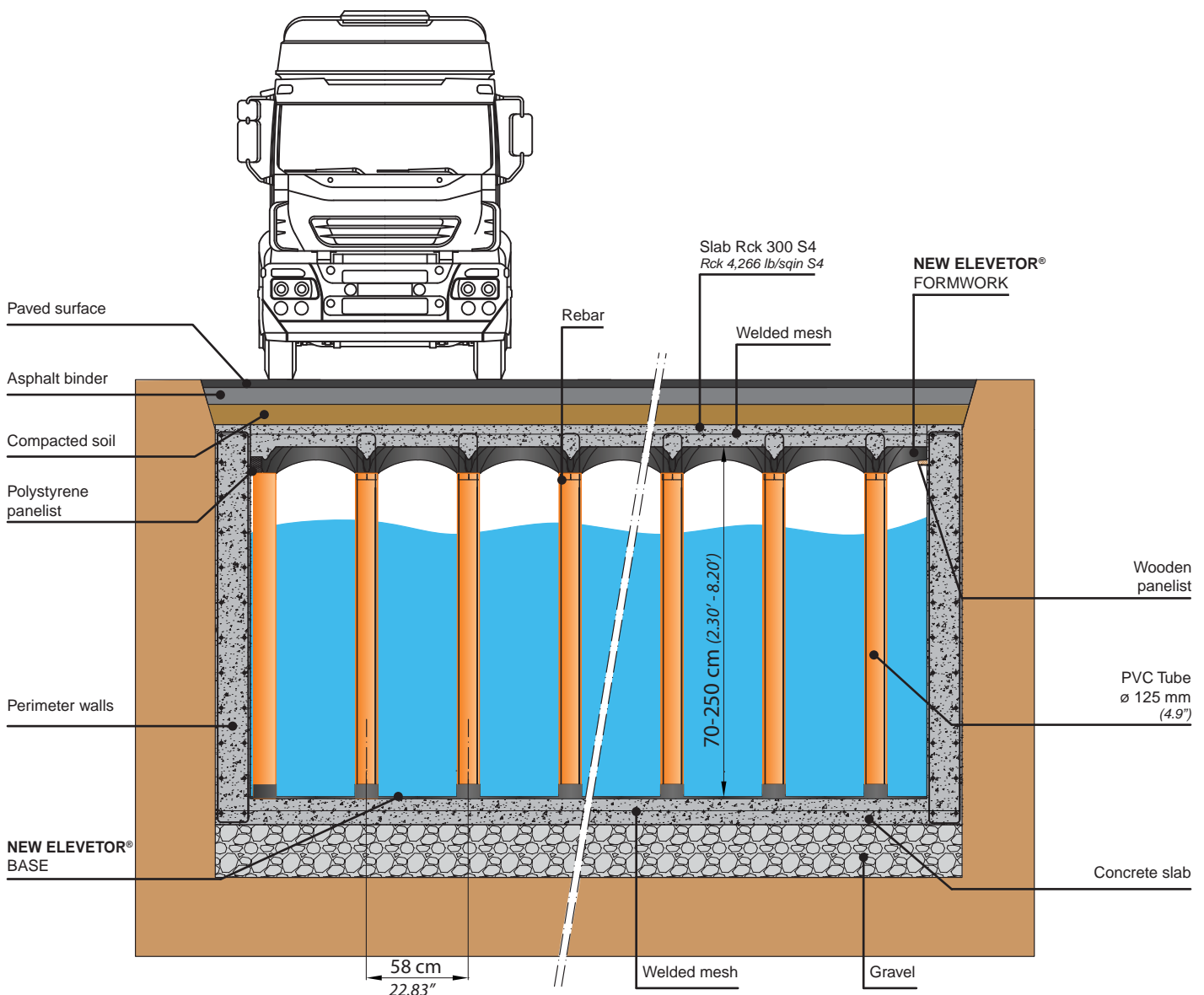
## NEW ELEVETOR® TANK CROSS SECTION

The reinforced concrete structure formed with **NEW ELEVETOR® TANK** is composed by a concrete bed, the perimeter walls and a slab held up by small pillars: the structure has high bearing capacity and is suitable for overload, both live loads and dead loads. The top slab of **NEW ELEVETOR® TANK** may be covered with earth to get a green surface or can remain as it for vehicles transit.

To correctly create a tank and obtain a right section it is necessary to follow these operations:

- Ground excavation to the required depth.
- Place and compact a gravel subgrade.
- Pour the foundation and perimeter walls; use Rck 300 kg/cm<sup>2</sup> (4,266 lb/sqin) concrete and steel armature, height and thickness according to project spec., leaving holes for the water inlet and outlet.
- Lay the **NEW ELEVETOR® TANK** system by **Geoplast S.p.A.**, composed by modular **FORMWORK NEW ELEVETOR®** in polypropylene 58x58 H15 cm (22.83x22.83x5.91 in), fitted on PVC tubes Ø 125 mm (4.92 in) and cut to the desired length and sustained by the **NEW ELEVETOR® TANK GRID**.
- Lay the rebar mesh over the **NEW ELEVETOR® TANK** formwork.
- Hang the reinforcement rods from the mesh (the rods must reach the bottom of the PVC tube).
- Pour the concrete, Rck 300 kg/cm<sup>2</sup> (4,266 lb/sqin), to fill the tubes and the formwork, and create a slab of the specified thickness. During this phase the inspections wells have to be prearranged.

The loads can be applied directly on the tank slab or it can be covered with earth to create an asphalted car park or a green surface.





# NEW ELEVATOR® TANK EXECUTION

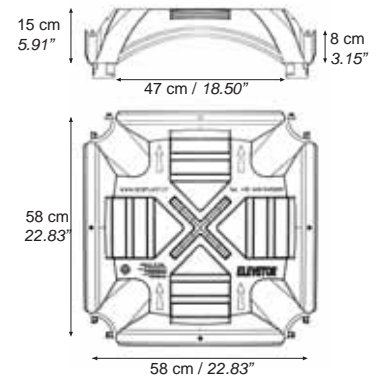
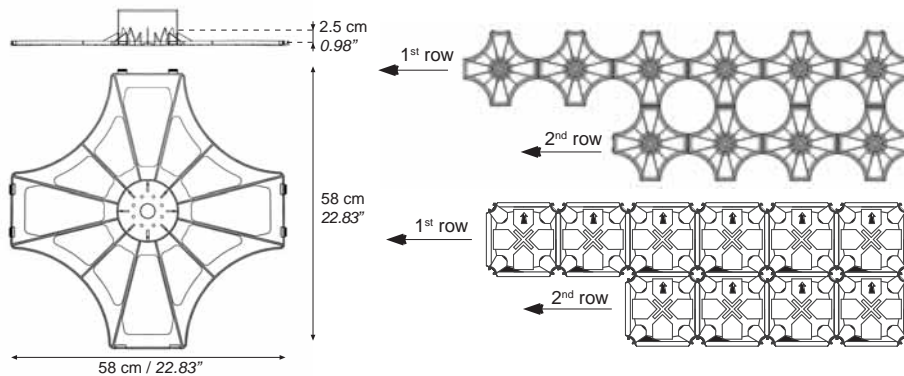
## NEW ELEVATOR® Base / Advantages and characteristics

**NEW Elevator® Base**, is an element in recycled polypropylene (PP\*) that guarantees an easy and quick installation of the PVC tubes supporting the **NEW Elevator® System**. Installation is precise and the tubes remain perfectly vertical.

\* Recycled Polypropylene (PP): Flexural modulus 1,100 N/mm<sup>2</sup> - Tensile strength 35 N/mm<sup>2</sup> - Coefficient of thermal expansion 0.15 mm/m/°C

## NEW ELEVATOR® Formwork / Advantages and characteristics

**NEW Elevator®** is an innovative formwork system size 58x58 H15 cm (22.83 x 22.83 x 5.91 in) for the creation of water tanks that offers a significant reduction in the amount of concrete required, and very low production time.



Pour the ground slab and the perimeter walls; prearrange holes for inlet / outlet pipes



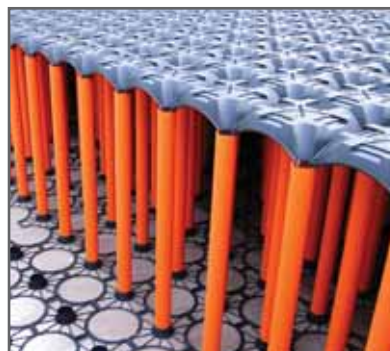
Laying **NEW ELEVATOR® BASE**



Insertion of PVC pipes



Installation of **NEW ELEVATOR® FORMWORK**



View of the complete system



Laying of the rebar mesh and insertion of rods into the pipes



Pouring process



Concrete tubes installation



View of the finished car park

# NEW ELEVATOR® TANK TECHNICAL CHARACTERISTICS

The **NEW ELEVATOR® TANK** system makes it possible to create reinforced concrete tanks of custom depth by cutting the PVC pipes to the desired length. The greatest depth achievable is 250 cm (8.2 ft). Insert a steel rod in each pillar: each bar should reach the base of the pillar, and is U-shaped at the top end and hung to the wire mesh to connect the armature.

*h (cm) / (ft)	Tank capacity		*h (cm) / (ft)	Tank capacity	
	(m³/m²) / (cuft/sqft)	l/m² / (gal/sqft)		(m³/m²) / (cuft/sqft)	l/m² / (gal/sqft)
80 / 2.62	0.564 / 1.85	564 / 13.83	170 / 5.58	1.464 / 4.80	1,464 / 35.90
90 / 2.95	0.664 / 2.18	664 / 16.28	180 / 5.90	1.564 / 5.13	1,564 / 38.36
100 / 3.28	0.764 / 2.51	764 / 18.74	190 / 6.23	1.664 / 5.46	1,664 / 40.81
110 / 3.61	0.864 / 2.83	864 / 21.19	200 / 6.56	1.764 / 5.79	1,764 / 43.26
120 / 3.94	0.964 / 3.16	964 / 23.64	210 / 6.89	1.864 / 6.12	1,864 / 45.71
130 / 4.26	1.064 / 3.49	1,064 / 26.09	220 / 7.22	1.964 / 6.44	1,964 / 48.17
140 / 4.59	1.164 / 3.82	1,164 / 28.55	230 / 7.54	2.064 / 6.77	2,064 / 50.62
150 / 4.92	1.264 / 4.15	1,264 / 31.00	240 / 7.87	2.164 / 7.10	2,164 / 53.07
160 / 5.25	1.364 / 4.48	1,364 / 33.45	250 / 8.20	2.264 / 7.43	2,264 / 55.52

\*h = inner depth of the tank

## LOAD CHART NEW ELEVATOR TANK H150 cm / (61.62 in)

LOAD	Load t / (lb <sub>r</sub> )	Slab thickness (cm) / (in)	Ground slab thickness (cm) / (in)	Gravel thickness (cm) / (in)	Pressure on the ground kg/cm² / (lb/sqin)	Welded mesh	
						mm / (in)	(cm) / (in)
1 <sup>st</sup> category	60 / 132,240	15 / 5.91	20 / 7.87	35 / 13.78	0.87 / 12.37	double ø 8 / 0.3	20x20 / 7.9 x 7.9
2 <sup>nd</sup> category	45 / 99,180	10 / 3.94	15 / 5.91	30 / 11.81	0.93 / 13.22	ø 8 / 0.3	20x20 / 7.9 x 7.9

The following concrete consumption does not include the bottom slab, the top slab and the perimeter walls that may vary depending on the project spec.

**CONCRETE CONSUMPTION OF NEW ELEVATOR FORMWORK**  $[m^3/m^2] = [0.037 \times \text{net height of internal tank} - 0.15]] + 0.030$   
 $(cuft/sqft) = [0.037 \times \text{net height of internal tank} - 0.49]] + 0.098$

Example of a tank h 1.5 m (4.92 ft):

It is necessary to employ **NEW ELEVATOR® Base** + PVC pipes ø 125 mm (4.92 in) and 1.35 m (4.428 ft) high + **NEW ELEVATOR® Formwork**.

**Concrete consumption** =  $(0.037 \times 1.35) + 0.030 = 0.080 m^3/m^2$ .  
 $(0.037 \times 4.428) + 0.098 = 0.262 cuft/sqft$

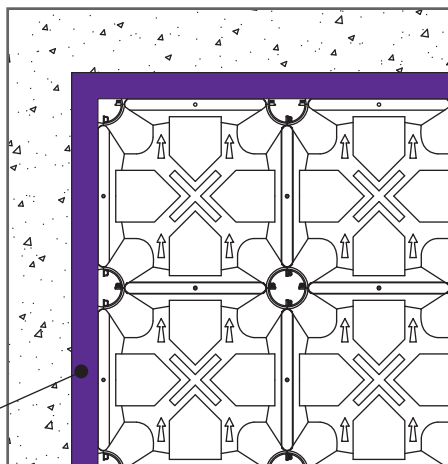
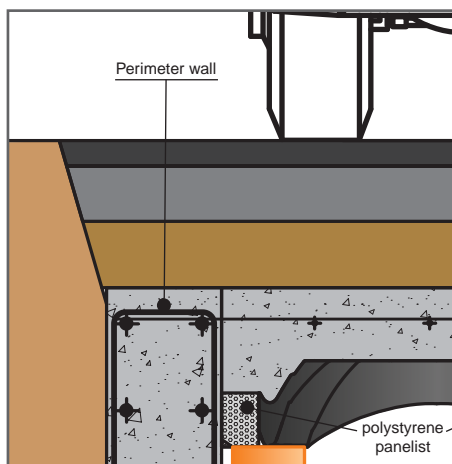
## PACKAGES

	Dimension (cm) / (in)	H Pallet (cm) / (ft)	Units per pallet	Quantity (m²) / (ft²)
NEW Elevator® Formwork	58 x 58x H15 22.83 x 22.83 x 5.91	265 / 6.56	225	75 / 807
NEW Elevator® Base	58 X 58 X H2,5 22.83 x 22.83 x 5.91	240 / 7.87	310	103 / 1108.28

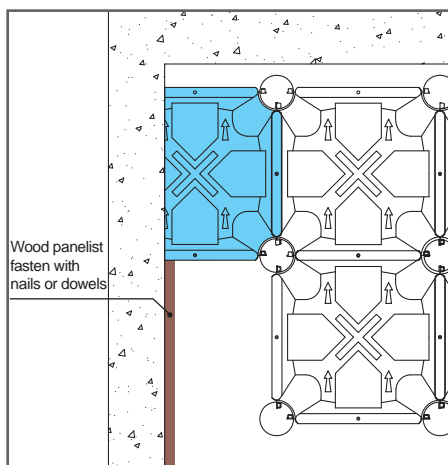
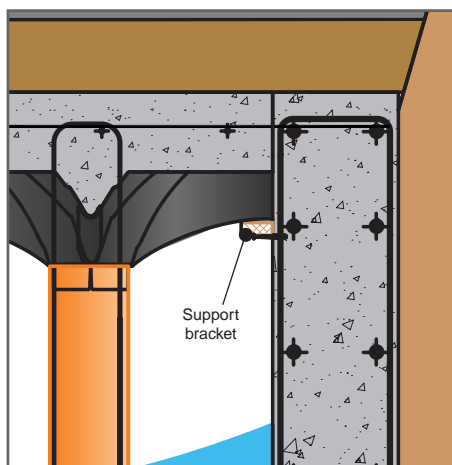




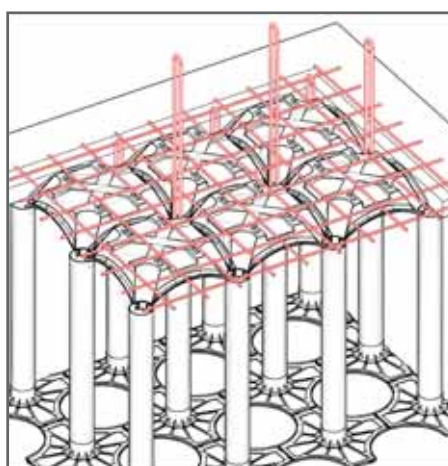
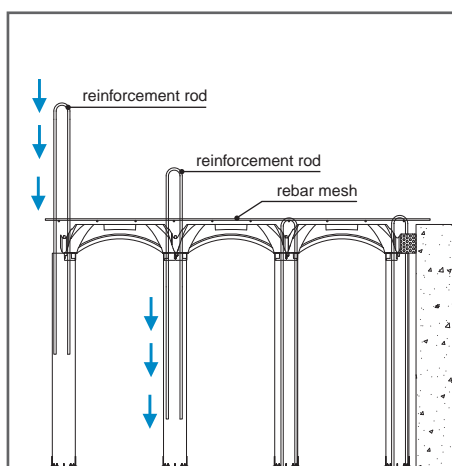
## NEW ELEVATOR® TANK BUILDING DETAILS



Fasten polystyrene panelists to perimeter walls



Section of cut formwork supported by wood brackets fastened to perimeter walls



Detail of the reinforcement rod to be inserted into PVC pipes

## CUSTOMER SERVICE: PROJECT DEVELOPMENT

Send your projects in DWG format to [ufficiotecnico@geoplast.it](mailto:ufficiotecnico@geoplast.it)

## ASSEMBLY HANDBOOK AND TECHNICAL SPECIFICATIONS

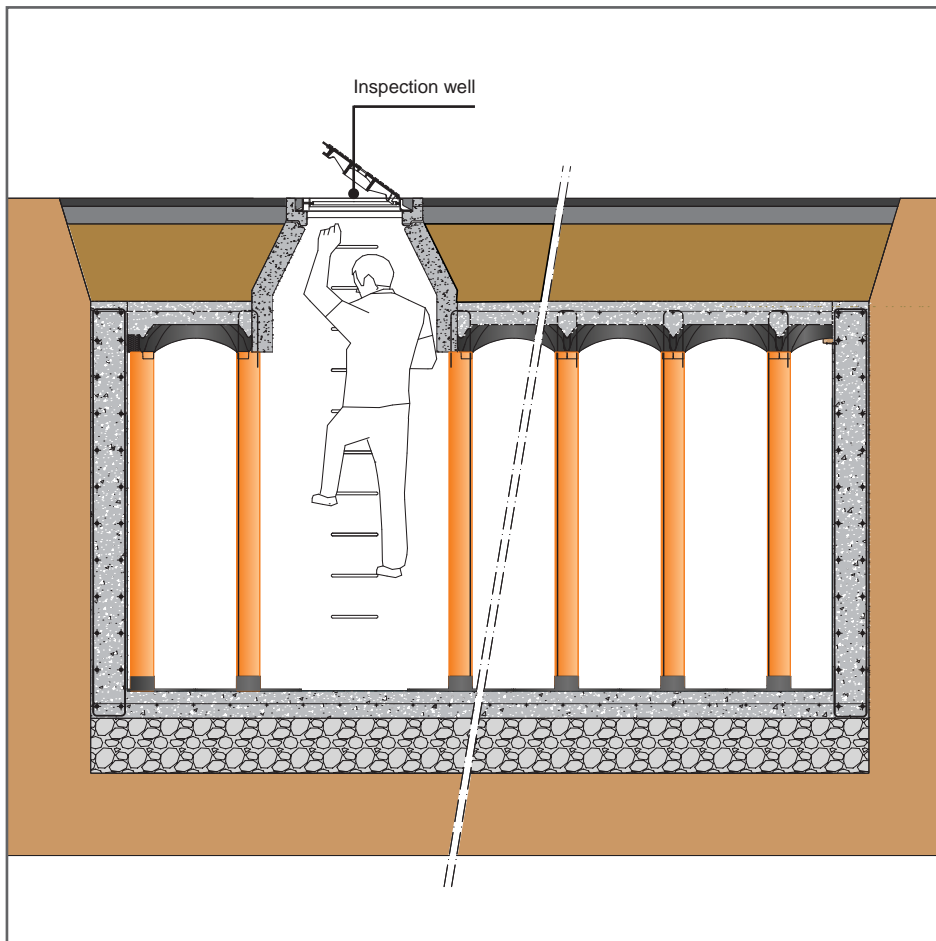
Available in our website [www.geoplast.it](http://www.geoplast.it) in the Download Area

# NEW ELEVETOR® TANK BUILDING DETAILS

## INSPECTION

The cistern formed with **NEW ELEVETOR TANK®** is easy to inspect thanks to an inspection well allowing the access into the tank:

- MAINTENANCE
- VERIFICATION OF THE WATER LEVEL
- VERIFICATION OF THE MICROBIOLOGICAL STATE OF THE WATER
- INSPECTION OF PLANTS OR PIPES PLACED INTO THE TANK



## CONTRACT SPECIFICATIONS

Construct a storage tank in concrete by pouring concrete onto regenerated polypropylene lost formwork type **NEW ELEVETOR TANK®**, manufactured by **Geoplast S.p.A.** The system is composed by a base grid with cross shape 58x58 x H2.5 cm (22.83 x 22.83 x 5.91 in) and by PVC pipes Ø125 mm (4.92 in) of variable heights and by top formwork 58x58 x H15 cm (22.83 x 22.83 x 5.91 in); the top elements are dome shaped and are provided with 4 ribs for the right placement of the rebar mesh and to facilitate the pour operation avoiding sinking or crashing.

The connected elements are suitable to receive the pour of the concrete type Rck 300 (4,266 lb/sqin) to form pillars on a square base matrix.

The formed tank will be the ideal solution for water storage and accumulation.

The phases of execution are:

- A) Pour a slab of lean concrete of the thickness specified by the project design.
- B) If required by the Project Management, holes for services shall be made and references shall be traced before the forms are put in place.
- C) Install **NEW ELEVETOR TANK®**, system composed by modular formwork in regenerated polypropylene as required by the project design.
- D) Place the reinforcement (welded mesh) as required by the project design for stress forces applied.
- E) Pour concrete of resistance class and performance in the amount required in order to fill the void created by the forms and the pipes, creating a series of pillars, and the top slab of the thickness.
- F) Vibrate the concrete pour.

All ancillary services and structures required for a workmanlike execution must be included.



**GEOPLAST S.p.A.**

Via Martiri della Libertà, 6/8 - 35010 Grantorto (Pd) - Italia  
Tel +39 049 9490289 - Fax +39 049 9494028  
e-mail: [geoplast@geoplast.it](mailto:geoplast@geoplast.it) - [www.geoplast.it](http://www.geoplast.it)



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