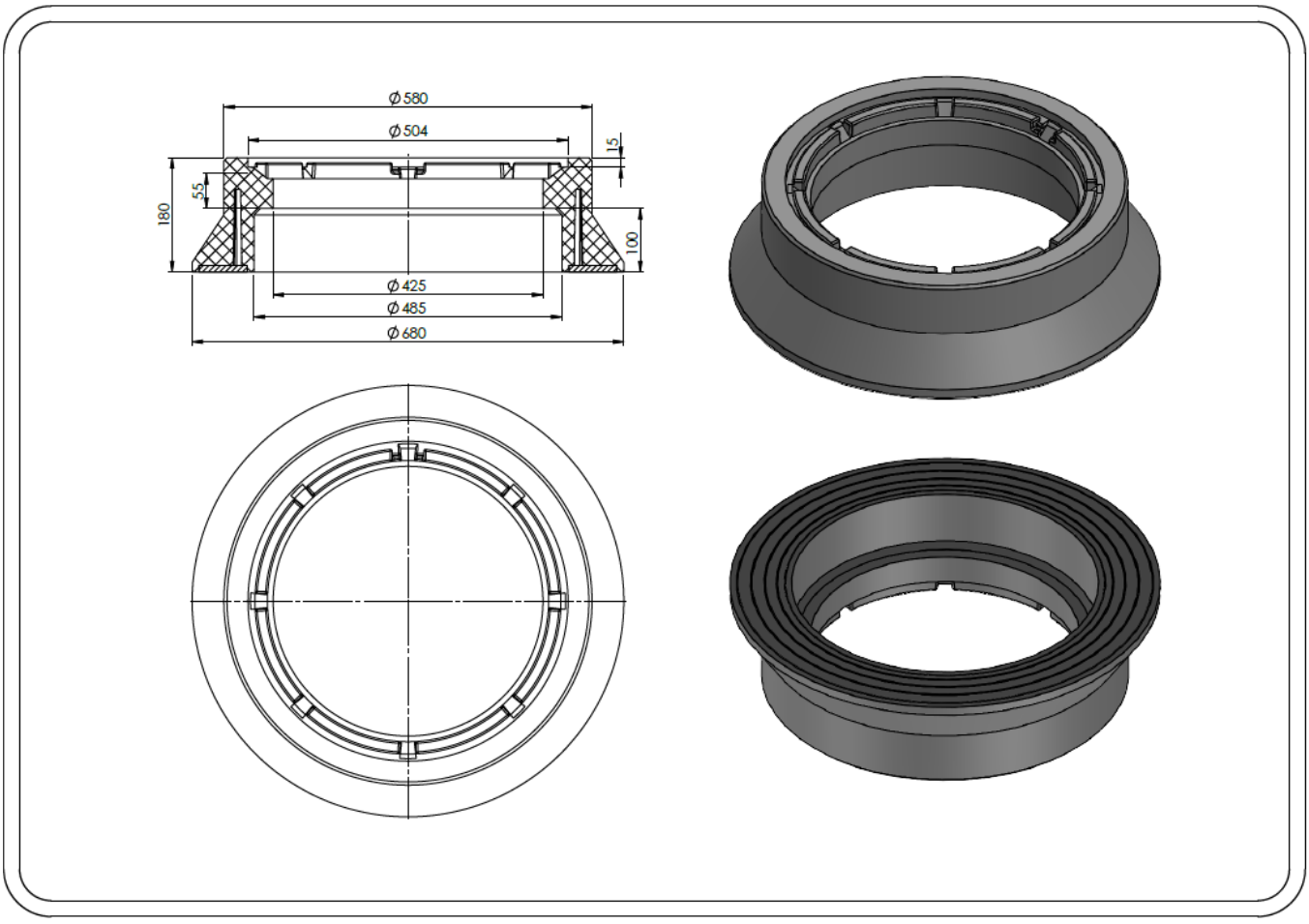
PRODUCT TECHNICAL SHEET

Universal relief cone T3/480/425/T

Intended for:

- Transfer of traffic loads from vehicle traffic acting on the finials of telescopic manholes beyond the core of the plastic well onto the structural layers of ground or road substructure.
- Protection of the shaft of the plastic inspection or rainwater chamber DN / OD 475 against damage both in the vertical and horizontal plane.
- Indirect support of telescopic manholes/inlets in bituminous surfaces by placing a cone in the load-bearing layer of the surface structure - the cone provides support for the compacted layer of the road surface located between the bottom of the telescopic manhole flange and the cone.
- Supports for adapters supporting street road inlets 300x500, 500x500, 400x600 as well as curb and roadway inlets
- Direct structural support:
  - telescopic manholes/inlets of plastic manholes DN 425 with an external diameter of the body frame of 500 mm in green areas located in ground surfaces, creating a center of support for the manhole flange

Universal relief cone T3/480/425/T (for telescopic finials) for plastic manholes:



Index	DN(mm)	DZ(mm)	H(mm)	Weight(kg)	Class
T3/480/425/T	**425/480**	**580/680**	**185**	**26**	**D400**

3.Application

Universal relief cone for protection of plastic inspection and rain chambers with an outer diameter of a shaft pipe (up to) DN/OD 475 topped with manholes/telescopic inlets DN 425 with a flange diameter of the manhole body 500 mm.

The construction of the cone provides both an additional cover for the connection of the telescopic pipe and the shaft of the well as well as stress compensation in the near-surface area**.** In plastic rainwater chambers DN 400 and DN 425, it supports the TVRT system adapters intended for street inlets: roadway, curb and roadway and self-leveling inlets with dimensions of 300x500, 500x500, 400x600.

The set consisting of the T3/480/425/T relief cone and the adapter supporting the inlets from the TX/765 or TX/4052 product group ensures full relief, protection of the shaft of the plastic rainwater chamber from vertical and horizontal road loads and proper support of the inlet structure.

The T3/480/425/T relief cone together with the T1/320/50 reducing ring can protect and relieve the shaft pipes of DN 400 manholes equipped with a 400/315 sleeve seal and topped with manholes/telescopic inlets 315 .

For use in communication engineering in accordance with the above-mentioned purpose in the field of public roads without limits, internal roads,and railway engineering structures without limits. In the traffic areas of groups 1-4, in class D400 according to PN-EN 124-1: 2015-07.

Used in:

• For telescopic manholes DN 425 (ø500mm) by Bohamet, Kaczmarek, Norson 110/1

• In bituminous surfaces for relief and intermediate support under telescopic manholes DN 425 (ø525mm) by Orzechowscy, Żeliwa-Wavin, Magnaplast (minimum 5cm compacted bitumen layer required between the bottom of the telescopic manhole flange and the top of the relief cone)

Drawings and construction diagrams in the card

Technical parameters of T3/480/425/T - relief cone

Compressive strength. Class	400kN D400	PN-EN 124-1 07-2015
Tensile strength	3Mpa	PN-EN ISO 527-1:2012
Degree of resistance to frost in water	F150(-2%)	PB IBDIM PB/TB-1/23
Degree of frost resistance in 2% NaCl	F50(-2%)	PB IBDIM PB/TWm-36/98
Absorptivity	<0,2%	PN-EN ISO 62:2008
Mechanical loss	0,33 tg	
Hardness according to Schore	>46	PN-EN ISO 868:2005
Product dimensional tolerance	± 5mm in diameter, ± 3mm in height	

Support surface	1821 cm²	
Thermal resistance	-30°C do +60°C	In continuous work conditions.
Short-term thermal resistance 170°C	2h	In the conditions of installation in the bituminous surface
PVC / PE material	80%	PN-EN 15346 2009

Product reference documents:
National Technical Assessment No. IBDiM-KOT-2017/0047 3rd edition
National Declaration of Performance No. 05
Code CN 39259090

General assembly instructions:

- around the shaft pipe(at the distance from the edge of the well ≥ 30 cm)) make the thickening of the substructure for the finial in accordance with the rules resulting from ground conditions, compaction index, road structure type and traffic load category based on PN-ENV 1046 standard.
- Conduct compaction by hand, in layers, every 15 cm or with light mechanical equipment, in layers, every 30 cm along the entire height of the well, evenly around the circumference and obtain the degree of ground compaction in accordance with the design, requirements of the manhole assembly instructions:
- in areas with no traffic, the degree of density should be 92% on the Proctor scale, in pedestrian traffic routes (class A), the degree of density ≤95%, vehicle load (class D) ≥98% on the Proctor scale.
- in order to maintain proper compaction, it is recommended to stabilize the ground with cement in the near-surface area
- the ground around the shaft pipe, under the relieving cone should be flat and free from point loads, consisting of gravel, sand, dry concrete (chippings, etc. are not allowed.)
- the T3/480/425/T unloading cone is positioned centrally over the chamber opening without disturbing the foundation/compacted subsoil, leaving a free space of about 2÷3 cm between the top of the shaft pipe and the lower internal reducing edge of the cone, the subsoil under the cover body
- Before starting the assembly works of the telescopic manhole DN 425 , check whether all the elements of the near-surface finial of the plastic manhole are structurally suited to the intended use:
- whether the manhole has been properly adjusted to the ordinate, e.g. by cutting the shaft pipes and correct height foundation of the relief cone
- whether an adequate margin of approx. 20 cm has been left/taken into account for the insertion of the telescopic pipe
- whether the compaction of the foundation around the well is correct and adequate for the location of the relief cone foundation.
- whether the appropriate height is maintained to the surface ordinate to allow for the installation of a telescopic manhole
- inside the shaft pipe of the plastic manhole in the highest valley, a gasket should be installed (or a sealing and reducing collar with a lubricant)
- insert a telescopic manhole into the stem pipe through the hole in the relief cone and place it on the cone (in the load-bearing layer of the pavement structure)
- the manhole should be placed on and in the wearing course, both in the case of changing the elevation of the surface, it is possible to pull out the telescopic manhole from the cone and place a compacted bituminous layer in the space between the cone and the manhole and press the manhole in.

In traffic areas

Around the finial of the plastic manhole make a road surface foundation based on breakstone (approx. 65-70%) and quick-setting cement masses (approx. 30-35%) or B35 concrete or asphalt mass / hot asphalt concrete
commissioning should take into account the necessary time of complete cooling of the bituminous mass, allowing it to be put into service

Notes on installation conditions

During height adjustment of sewage wells with the use of plastic elements of the TVR T System, it is forbidden to:

- installing and assembling support adapters on incorrectly seated strain relief rings.
- use of ground materials for compaction of the substructure that do not comply with the recommendations of the manufacturer of manholes and materials other than those approved for use in road construction described in PN-S 02205, height adjustment, overlapping, placing point destructive elements under the cones
- laying the surface without making the correct foundation, filling and compacting the space around the finial and the manhole