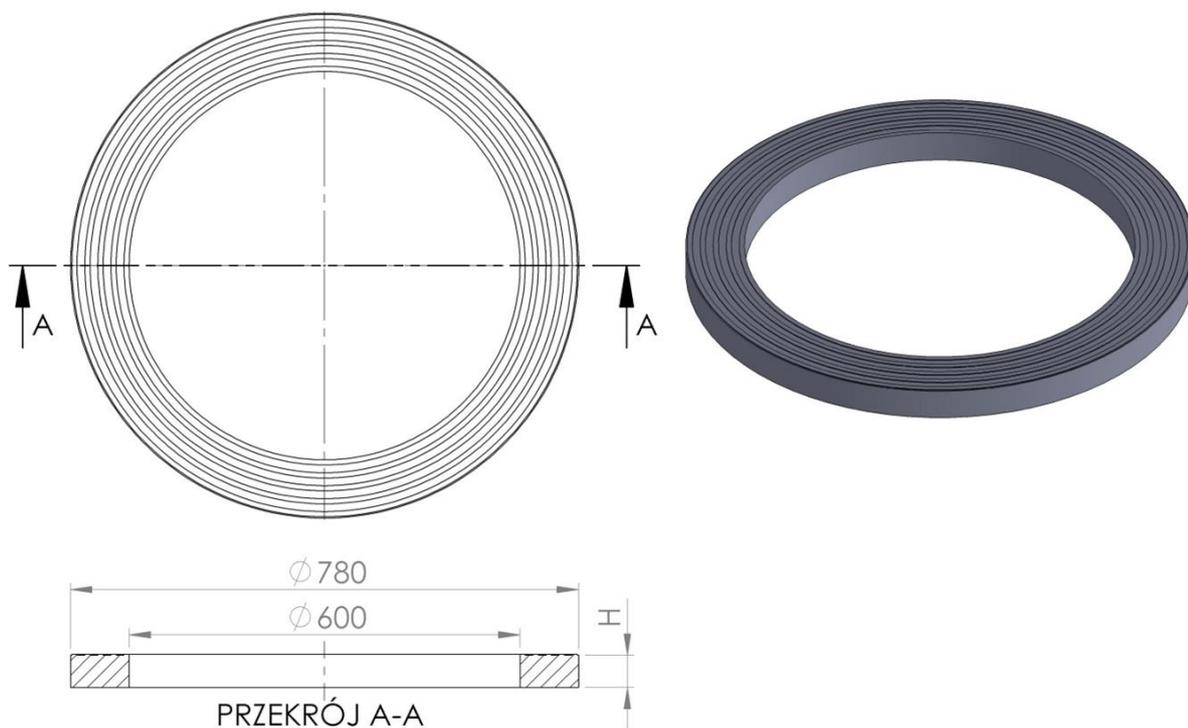


T1/600 Compensation rings

Intended for:

- height adjustment of concrete chambers with a DN 600 mm manhole.
- height adjustment of plastic manholes on a 600 mm telescopic adapter
- direct foundation of flanged manholes up to class D400, inclusive of DN 600 (with the outer diameter of the manhole base flange maximum 770 mm)
- foundation of TVR T system elements due to directly support square, octagonal shaped manholes with body foot diameters bigger than 780mm
- direct foundation of the leading adapters (TXS) of the TVR T system for self-leveling manholes
- direct installation of manholes and D400 self-leveling manholes (with the outer diameter of the leading flange 592mm)

Group T1/600 compensation rings

Tabela nr1.

Index	DN(mm)	DZ(mm)	H(mm)	Weight(kg)	Class
T1/600/10	600	780	10	3,1	D400
T1/600/15	600	780	15	4,1	D400
T1/600/30	600	780	30	6,8	D400
T1/600/50	600	780	50	10,9	D400

T1/600/100	600	780	100	19,3	D400
T1/600/150	600	780	150	27,8	D400

3. Application:

Plastic compensation rings from the T1 / 600 assortment group are an element of the top-surface of sewage manholes ensuring height adjustment of the manhole in the range from 10 to 300 mm for manholes and from 10 to 700 mm for non-manhole manholes. They are laid on concrete reducers or cover plates of sewage chambers with a DN 600 manhole and on T3 / 600 relief cones.

- They constitute a direct basis for the assembly of standard manholes DN600 to class D400, with the outer diameter of the body base max. \varnothing 770mm.
- They are an element of height adjustment of the final for self-leveling manholes DN600 class D400, supporting directly adapters / leading rings of the type:
 - TXS / 635/80
 - TXS / 635/80 N
 - TXS / 650/90
 - TXS / 675/90
 - TXS / 685/90

DN 600 A15 ÷ D400 sewer manholes with external diameters of the body foot larger than the external diameter of the compensating ring from the T1 / 600 group (\varnothing 780mm), as well as square, octagonal and openwork feet require the use of a supporting element for direct support providing full support for the body foot of a manhole, set on T1 / 600 compensating rings (table below)

Table No. 2

Rings for adjusting the height of the chamber with DN 600 opening	Elements of the TVR T system for direct support of the manhole	Manholes DN 600, class A15 ÷ D400 (Type, dimensions)
T1/600	It does not require a supporting element	<ul style="list-style-type: none"> • traditional round cast iron manholes with the outer diameter of the body base $\varnothing \leq 770$ mm • traditional round composite manholes with an internal diameter of the body foot \varnothing 600mm and external diameter ≤ 780mm • self-leveling cast iron manholes with the outer diameter of the leading pipe \varnothing 592 mm
T1/600	Compensation ring with rim Min T1R / 625/40 <ul style="list-style-type: none"> • inner diameter of the ring 625mm • outer diameter between the edges of 810 mm Min T1 / 625/80 (minimum ring height for a self-leveling manhole 80 mm)	<ul style="list-style-type: none"> • traditional round cast iron manholes with the outer diameter of the body foot $\varnothing \leq 805$mm. • traditional cast iron-concrete round manholes (e.g. DIN 19584) with the outer diameter of the base body $\varnothing \leq 785$ mm • self-leveling cast iron manholes with the outer diameter of the leading pipe \varnothing 613 mm
T1/600	Compensation ring T1 / 620/50 <ul style="list-style-type: none"> • inner diameter 620mm • outer diameter 850mm • minimum height of an element in the structure -50mm 	<ul style="list-style-type: none"> • traditional cast iron manholes, round, octagonal with the outer diameter of the base of the body $\varnothing \leq 850$ mm

T1/600	Settlement foundation plate T04 / 850/600/50 <ul style="list-style-type: none"> • external dimensions of the element 850x850mm, • inner diameter \varnothing600mm • height 50 mm 	<ul style="list-style-type: none"> • traditional round cast iron manholes, octagonal with the outer diameter of the base of the body $\varnothing \leq 850$mm • cast iron and composite manholes with a square body foot with external dimensions of 850x850 mm (with a round manhole cover)
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For use in communication engineering in accordance with the above-mentioned purpose in the field of public roads without limits, internal roads, road 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

Attention. Do not use the T1 / 600 group compensation rings to directly support the bodies of openwork manholes with an outer diameter of the foot > 780mm. Storage in a horizontal position on pallets or on flat ground.

Technical parameters of T1 / 600 compensation rings

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	PB IBDIM PB/TB-1/23
Degree of frost resistance in 2% NaCl	F50	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	± 5 mm in diameter, ± 3 mm in height	
Support surface	1328 cm ²	
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. 03 / EW / 22
Code CN 39259090

General assembly instructions:

- before starting the assembly works with the TVR T system compensating rings, check whether the diameters (external and internal) are appropriate for a given manhole and that all elements are structurally suited to the intended application
- determine the necessary amount, the height of the compensation rings for height adjustment, taking into account the angle of inclination (or the height of the supporting element), the height of the manhole, the thickness of the repair layer
- T1 / 600 compensation rings may be installed on the upper elements of concrete chambers, provided that the ground on which they are to be installed is in good technical condition. They require the provision of an even, strong base / foundation.
- any defects, unevenness, damage, leaks should be repaired before the installation of compensating rings by making a compensating and repair layer with the use of cement quick-setting masses or resins with appropriate strength and operating parameters, dedicated by the manufacturer to repair the finials of sewage manholes, anchoring manholes
- the thickness of the repair layer should be in accordance with the recommendations of the manufacturer of quick-setting compounds
- the surface of the manhole finial should be made in a tight manner, polymer adhesives and sealants should be used between all the elements of the top, i.e. compensation rings, supporting element, manhole
- place the rings centrally over the manhole, one on top of the other, pressing firmly until the required adjustment height is achieved.
- on the compensation rings, place the leading adapter for the self-leveling manhole or the support element for the manholes listed in table 1 (with the sealing on the bottom)
- around the top, make reconstruction / substructure of the road surface based on breakstone (approx. 65-70%) and cement quick-setting masses (approx. 30-35%)
- reconstruction of the road surface around the near-surface finial is made in layers with appropriate compaction (in accordance with the design)
- 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 and drains with the use of plastic elements of the TVR T System, it is forbidden to:

- compensation rings installation on damaged elements of sewage chambers, on uneven, unrepaired, unprepared surfaces, not providing full permanent support for compensation rings.
- use any placing point destructive elements (bars, plates, cut rings, etc.) for height adjustment via putting them on the compensation rings
- use of concrete mortars between the plastic compensation rings
- install manholes that are structurally and dimensionally unadjusted to the elements directly supporting the TVR T system
- make high adjustments above 25cm only on the rings with low dimensions
- laying the surface without making the correct foundation, filling and compacting the space around the finial and the manhole