

# TOM<sup>®</sup>, the best choice for the conveyance of water under pressure

## Product Overview

TOM<sup>®</sup> PVC-O pipes are the optimal solution for the conveyance of water under pressure for water supply, irrigation, etc. They are available in the widest range of diameters and pressures for this material and are being installed in more and more projects around the world due to their extraordinary physical-mechanical properties and excellent quality.



## Material:

- Oriented unplasticized poly(vinyl chloride) (PVC-O). Class 500.

## Pressure Rating:

- Wide range of nominal pressures: 12.5, 16, 20 and 25 bar.

## Temperature Rating:

TOM<sup>®</sup> PVC-O pipes are highly resistant to extreme temperatures:

- WRAS sanitary certificate, (UK). TOM PVC-O pipes.  
For use with water up to 60 °C  
[https://molecor.com/sites/default/files/wras\\_60\\_tom\\_approval.pdf](https://molecor.com/sites/default/files/wras_60_tom_approval.pdf)



## Range:

TOM® PVC-O 500 Pipe										
Nominal Pressure (bar)			PN12.5		PN16		PN20		PN25	
Nominal Diameter (DN)	Outside Diameter (OD)		Inside Diameter (ID)	Wall Thickness C1.4 (e)	Inside Diameter (ID)	Wall Thickness C1.4 (e)	Inside Diameter (ID)	Wall Thickness C1.4 (e)	Inside Diameter (ID)	Wall Thickness C1.4 (e)
	min.	max.	average	min.	average	min.	average	min.	average	min.
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
90	90.0	90.3	84.8	1.6	84.3	2.0	84.3	2.5	83.0	3.1
110	110.0	110.4	103.6	2.0	103.1	2.4	103.0	3.1	100.8	3.8
125	125.0	125.4	117.8	2.2	117.8	2.8	117.1	3.5	114.5	4.3
140	140.0	140.5	132.3	2.5	132.3	3.1	131.1	3.9	129.1	4.8
160	160.0	160.5	152.1	2.8	151.2	3.5	149.8	4.4	146.6	5.5
200	200.0	200.6	190.1	3.5	189.0	4.4	187.3	5.5	183.3	6.9
225	225.0	225.7	213.9	4.0	212.6	5.0	210.7	6.2	207.5	7.7
250	250.0	250.8	237.6	4.4	236.3	5.5	234.1	6.9	229.1	8.6
315	315.0	316.0	299.4	5.5	297.7	6.9	295.0	8.7	288.6	10.8
355	355.0	356.1	337.4	6.2	335.5	7.8	332.5	9.8	325.3	12.2
400	400.0	401.2	380.2	7.0	378.0	8.8	374.6	11.0	366.5	13.7
450	450.0	451.4	427.7	7.9	425.3	9.9	421.4	12.4	412.3	15.4
500	500.0	501.5	475.2	8.8	472.5	11.0	468.2	13.7	458.1	17.1
630	630.0	631.9	598.8	11.0	595.4	13.8	590.0	17.3	581.0	21.6
710	710.0	712.0	674.8	12.4	671.0	15.4	664.9	19.2	654.7	24.4
800	800.0	802.0	760.4	14.0	756.1	17.4	749.2	21.6	733.0	27.4
900	900.0	902.7	855.4	15.7	850.6	19.6	839.5	24.3	824.1	30.9
1000	1000.0	1003.0	950.5	17.5	945.1	21.7	932.8	27.0	915.6	34.3
1100 <sup>(1)</sup>	1100.0	1103.3	1045.5	-	1039.6	-	1026.1	-	1007.2	-
1200 <sup>(1)</sup>	1200.0	1203.6	1140.6	21.1	1134.1	26.2	1119.4	32.4	1098.8	41.4

TOM® PVC-O pipes are supplied in total length of 5.95 metres (including the length limit mark for the socket). The inside diameters may be subjected to variation according to manufacturing tolerances.

(1) Items upon request. Consult delivery time. For other lengths for special projects, price on request.  
DN1100: Not contemplated in ISO 16422: 2014 nor EN 17176: 2019.

DN1200: Not contemplated in ISO 16422: 2014 standard, manufactured according to EN 17176: 2019 standard specifications.

## Applications

### Water supply

Conduits for potable water transport. It is included both water abstraction and water distribution network to city centers, urban network and industrial areas and water transport to tanks and reservoirs.

### Reclaimed water

Pipelines for transport of water that has been treated to remove impurities.

### Irrigation

Water transport pipes for irrigation purposes. It includes irrigated land pipelines, water transfer to tanks and reservoirs.

### Other applications:

- Sewage
- Fire protection nets
- Industrial applications
- Infrastructure nets



## Features & Benefits

- **Lightness, ductility and ease of connection.** High installation performance.
- TOM<sup>®</sup> PVC-O pipes can be **manually installed up to DN315 mm**, thus reducing thereby installation costs.
- **Higher hydraulic capacity.** TOM<sup>®</sup> PVC-O piping systems have between 15% and a 40% more hydraulic capacity than systems with pipes made from other materials and with the same external diameter.
- **High useful life.** TOM<sup>®</sup> pipes enable to withstand internal pressures up to **twice** the nominal pressure maintaining the characteristics of a class 500 pipe over 100 years.
- **Excellent resistance to water hammer.** TOM<sup>®</sup> PVC-O pipes have a lower celerity than pipes made from other materials. That way there is virtually no possibility of breakage in the openings and seals of networks and when starting pumping operations.
- TOM<sup>®</sup> PVC-O pipes are **high impact resistant**. There is no breakage during installation or on-site trials. Molecular Orientation prevents the propagation of cracks and scratches and reduces the risk of rapid crack behaviour.
- **Full watertight** thanks to a seal composed of a polypropylene ring and a synthetic rubber lip that becomes integral part of the tube, ensuring the complete sealing, thus avoiding leakage of piped water.
- PVC-O **does not require any special protection or coating**. It is immune to corrosion and chemical resistant to external agents.
- **Energy efficiency** while being manufactured.
- **Better environmental footprint** thanks to the lower energy consumption, the CO<sub>2</sub> emissions emitted into the atmosphere are lower.
- **Optimization of the water resources**, the complete sealing of the joints and the durability of the pipe against degradation, prevent leakage of channeled water.
- **Total recyclability**, PVC is a 100% recyclable material that can be reused for applications with less technical requirement.

## Standards / Approvals

- SASO ISO 16422:2009 *“Pipes and joints made of oriented unplasticized poly(vinyl chloride) (PVC-O) for the conveyance of water under pressure”*.
- ISO 16422:2014 (International Standard) *“Pipes and joints made of oriented unplasticized poly(vinyl chloride) (PVC-O) for the conveyance of water under pressure”*.
- EN 17176:2019 *“Plastic piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure- Oriented unplasticized poly(vinyl chloride) (PVC-O). Part 1: General, Part 2: Pipes and Part 5: Fitness for purpose of the system”*.
- UNE-EN 17176:2019 *“Plastic piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure- Oriented unplasticized poly(vinyl chloride) (PVC-O). Part 1: General, Part 2: Pipes and Part 5: Fitness for purpose of the system”*.

## Media Links

Website: <https://molecor.com/en>

LinkedIn: <https://www.linkedin.com/company/molecor-tecnologia>

YouTube: [https://www.youtube.com/channel/UCPjpyZ\\_56RKVBsc-\\_hWHVg](https://www.youtube.com/channel/UCPjpyZ_56RKVBsc-_hWHVg)

Twitter: <https://twitter.com/Molecor>

Facebook: <https://www.facebook.com/Molecor>

## Case Studies

- Harrogate Growth Project: replacement and reinforcement of the Harrogate's water supply infrastructure, UK <https://molecor.com/en/pvc-o-pipes/case-studies/harrogate-growth-project-replacement-and-reinforcement-harrogates-water>
- Irrigation Modernization Project in the Irrigation Community of the Tajo-Segura de Librilla Diversion Community Irrigation Zone, Sector 2, Spain <https://molecor.com/en/pvc-o-pipes/case-studies/irrigation-modernization-project-irrigation-community-tajo-segura-librilla>
- Transforming the Irrigation Area of the “Vegas del Bajo Valdavia (Palencia) Irrigation Community” into an irrigated area with PVC-O pipes, Spain <https://molecor.com/en/pvc-o-pipes/case-studies/transforming-irrigation-area-vegas-bajo-valdavia-palencia-irrigation>
- Irrigation Transformation Project of Sector XXII of the Payuelos Sub-zone – Cea Area of the Irrigable Zone of Riaño, León, Spain <https://molecor.com/en/pvc-o-pipes/case-studies/irrigation-transformation-project-sector-xxii-payuelos-sub-zone-cea-area>
- 2nd phase of the impulsion and reservoir project to irrigate 838.4 ha in La Sarda and El Terrero areas in Pedrola, Zaragoza, Spain <https://molecor.com/en/pvc-o-pipes/case-studies/2nd-phase-impulsion-and-reservoir-project-irrigate-8384-ha-sarda-and>
- PVC-O pipelines for recycled water conveyance. Recycled water supply for irrigation in Coslada, Madrid, Spain <https://molecor.com/en/pvc-o-pipes/case-studies/pvc-o-pipelines-recycled-water-conveyance-recycled-water-supply-irrigation>

## Project References

- Molecor brings water to the Bulgarian city of Pernik, Bulgaria, after months of severe drought <https://molecor.com/en/news/molecor-brings-water-bulgarian-city-pernik-after-months-severe-drought>
- Ringstead Resilience and Sustainability water project in Norfolk, UK <https://molecor.com/en/pvc-o-pipes/project-references/ringstead-resilience-and-sustainability-water-project-norfolk-uk>
- Irrigation of the estate of La Corona and Acampo Orús- TM Barboles Zaragoza, Spain <https://molecor.com/en/pvc-o-pipes/project-references/irrigation-estate-corona-and-acampo-orus-tm-barboles-zaragoza>
- Installation of a pipeline between the Azid Derai reservoir and the supply network of the city of Safi, Morocco <https://molecor.com/en/pvc-o-pipes/project-references/installation-pipeline-between-azid-derai-reservoir-and-supply-network>

## Literature / Specification / Downloads

- TOM® PVC-O pipes catalogue: [https://molecor.com/sites/default/files/tom\\_en.pdf](https://molecor.com/sites/default/files/tom_en.pdf)
- TOM® PVC-O pipes technical sheet: <https://molecor.com/sites/default/files/technicalreporten.pdf>
- Project references and case studies: [https://molecor.com/sites/default/files/molecor\\_project\\_references.pdf](https://molecor.com/sites/default/files/molecor_project_references.pdf)
- TOM® PVC-O pipes multi-format catalogue: <https://molecor.com/en/browse-tom-pipes-multiformat-catalogue>
- Technical Manual for Network Design and Use. TOM® PVC-O pipes: <https://molecor.com/en/downloads>
- Mechanical Calculation Software. TOM Calculation: <https://tomcalculation.com/>