

Hidro

Helical thermoplastic- reinforced hoses for medium duty service (suction and discharge), water transport in swimming pools and hot tubs and for sewage connections – EN ISO 3994 Type 2

Espiral Plus - Hidro - are helical thermoplastic – reinforced hoses (spiral pipe), produced by co-extrusion in accordance with EN ISO 3994 Type 2 (for medium duty service).

Hidro helical thermoplastic – reinforced hoses stand out for their compatibility with metric series PVC-U piping systems for water and domestic sewage, they are suitable for installation with PVC-U adhesive joint fittings. Its interior wall is smooth, allowing full drainage of water or sewage.

They have excellent impact and crush resistance achieved by the rigid loop (helical thermoplastic – reinforcement) with a suitable geometric shape (rectangular or circular) and also provides better cold bending resistance. They are non-toxic and free of heavy metals.



Ø _{ext.} (DN) * (mm)	Ø _{int.} (mm)	Maximum working pressure		Bend radius	
		(23°C) (bar)	(55°C) (bar)	(23°C) (mm)	Length (m)
20 -0,1+0,4	16	7,3	2,1	100	25 50
25 -0,1+0,4	20	7,3	2,1	125	25 50
32 -0,1+0,4	27 **	7,3	2,1	160	25 50
40 -0,1+0,4	35 **	5,0	1,5	200	25 50
50 -0,1+0,4	43 **	5,0	1,5	250	25 50
63 -0,1+0,4	55 **	5,0	1,5	315	25 50
75 -0,1+0,4	65 **	5,0	1,5	375	25
90 -0,1+0,5	80	4,0	1,3	450	25
110 -0,1+0,5	100	3,0	1,0	550	25

* Nominal diameters are based on the outside diameter of the pipes which must be compatible with PVC-U fittings for water supply (EN ISO 1452-3) and for B-series sewage (EN 1329-1).

** Tolerance diameters above EN ISO 3994 but they complying with CERTIF and AENOR certification specifications.

Other characteristics

Material

They consist of a flexible plasticized PVC material in opaque grey or white colour, supported in their mass by a loop (helical thermoplastic – reinforcement) of rigid PVC material.



Marking

Hidro helical thermoplastic – reinforced hoses marking, is done in the helical direction with a minimum as in the example below for Hidro DN50:

◀Certif▶ – IBOTEC – HIDRO – ISO 3994:2014 – Tipo 2 – DN50 – 0,5 MPa (5 bar) 23°C – xQyy – Ibotec traceability code

Note: x quarter of year and yy last digits from year

Use

For use under medium conditions in the water supply and recirculating in swimming pools and hot tubs, at an average temperature from -10 °C to + 60 °C and for connecting hydro sanitary appliances to the sewage system.



Certified product
Certif



water transport



Swimming pools



compatible with
pressure PVC fittings



construction



domestic use



technical - industrial
use

Do not use with hot water continuously or subject the coiled pipe to pressure for long periods.

Mechanical characteristics

Characteristic	Value	Test method
Hydrostatic testing at 23 °C - Minimum burst pressure of EN ISO 3994	DN 20 to DN32 -> ≥ 22 bar DN40 to DN75 -> ≥ 15 bar DN90 -> ≥ 12 bar DN110 -> ≥ 9 bar	EN ISO 1402
- Proof pressure of EN ISO 3994 <ul style="list-style-type: none"> • DN20 to DN32 -> 8,8 bar • DN40 to DN75 -> 6,0 bar • DN90 -> 4,8 bar • DN110 -> 3,6 bar 	No failure, loss, cracking or abrupt distortion.	
Hydrostatic pressure at 55°C - Minimum burst pressure of EN ISO 3994.	DN 20 to DN32 -> ≥ 6,5 bar DN40 to DN75 -> ≥ 4,5 bar DN90 -> ≥ 4,0 bar DN110 -> ≥ 3,0 bar	EN ISO 1402
Tensile test	Tensile strength ≥ 50% of the value obtained in the raw material tested with ISO 37	Annex A EN ISO 3994
Vacuum test Absolute pressure of EN ISO 3994 -> 0,35 bar	No collapse or fracture (located more than 1xDN of fittings)	Annex B EN ISO 3994

Some indications for packing, storage, use and maintenance:

The packaging and storage of helical thermoplastic – reinforced hoses prior to use has been defined according to the recommendations of EN ISO 8331 and ISO 2230.

Hidro helical thermoplastic – reinforced hoses are packed in coils with straps and plastic wrap that guarantee their shape, and can be supplied in loose coils or coils in pallets.

During storage, especially for long periods, and when Hidro helical thermoplastic – reinforced hoses are exposed to certain adverse influences, their physical properties may change which may result in their no longer having the optimum characteristics corresponding to their application at the time they are applied and put into service.

The relative humidity at storage should not exceed 70 %, the temperature should be below 25 °C, and should be stored away from heat sources. Storage above 25 °C may reduce the expected durability of Hidro helical thermoplastic – reinforced hoses in coils. They should not be exposed to temperatures above 50 °C or below -30 °C or to abnormal temperature fluctuations during storage.

Hidro helical thermoplastic – reinforced hoses should be stored in dark spaces avoiding prolonged exposure to sunlight (ultraviolet radiation can reduce the impact resistance of helical thermoplastic – reinforced hoses and cause colour fading). In cases where storage is in poorly protected sheds, the helical thermoplastic – reinforced hoses should be covered with screens preferably in white, red or orange.

Contact with potentially hazardous products and gases such as paints, solvents, oils, fuels, fats, acids, disinfectants, etc. should be avoided.

Hidro helical thermoplastic – reinforced hoses must be stored in such a way that they are not subjected to excessive stress (crushing, stretching or deformation). Contact with sharp, sharp or abrasive objects and surfaces should be avoided.

Storage should preferably be on wooden or plastic pallets or on shelves, the maximum storage height being limited to maintain the verticality of the stacks without risk of falling and the underside coils not being permanently deformed. Coils are not recommended to be hung on pins.

Hidro helical thermoplastic – reinforced hoses must be handled with care, they should not be dragged under sharp or abrasive surfaces and should not be thrown or pinched by heavy vehicles or equipment.

Whenever Hidro helical thermoplastic – reinforced hoses are not being used for liquid transport, or if they are taken out of use for temporary storage, they must be drained (emptied). After cleaning and before being put back into service, Hidro helical thermoplastic – reinforced hoses should be visually examined to determine their suitability for continued use.

Hidro helical thermoplastic – reinforced hoses shall not be subjected to working pressures including overpressures above the stated maximum working pressure. The same applies to the maximum recommended use temperature.

Torsion, exposure to continuous vibration or tensile stresses should also be avoided and the recommended bending radius should be respected (bearing in mind that the bending radius increases with decreasing temperature) to prevent clogging and possible fatigue reinforcements (in particular with connection fittings) which may lead to premature failure.

To assemble Hidro helical thermoplastic – reinforced hoses, we recommend the use of PVC-U fittings with adhesive sockets according to EN ISO 1452-3 for water supply or recirculation or according to EN 1329-1 for Series B domestic sewage.

Hidro helical thermoplastic – reinforced hoses can also be used with ABS and SAN + PVC fittings such as skimmers, reflectors, suction sockets, junction boxes, level regulators and bottom drains, which are commonly applied in Swimming Pools and Jacuzzis.

For greater durability and tightness of assemblies, IBOTEC recommends the use of strippers and solvent adhesives, specifically for PVC flexible hoses, compatible with chlorinated waters. Remember that in the assembly of the joints, the adhesive is always applied to the male terminals and that after assembly must be removed any excess visible adhesive to prevent embrittlement of the helical thermoplastic – reinforced hoses wall or fitting by chemical attack of the adhesive solvents.

It is recommended that after assembly the coupling should be tested with a hydraulic test at the operating pressure intended for use to detect any leakage.

In fixed sight installations Hidro helical thermoplastic – reinforced hoses should be supported by suitable clamps, mounted to prevent distortion, expansion or contraction during use under pressure.

The information and data are believed to be accurate and secure.

Features can be improved as a result of improvements and technological advances.

Our Quality department is available for any clarification.



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