

## ESPIRAL PLUS RANGE

# Sucção SL

### Helical thermoplastic- reinforced hoses for light duty service (suction and discharge)

Spiral-reinforced thermoplastic hoses of Sucção SL range, are produced by co-extrusion technologies. They present high flexibility, mechanical reinforcement with rigid loop (helical thermoplastic – reinforcement), a good resistant to impact and crushing, light and also with a good resistance to abrasion.

Sucção SL hoses are non-toxic, free from heavy metals and comply with good manufacturing practices for materials intended to come into contact with food and beverages.



Ø <sub>int</sub> (DN) (mm)	Ø <sub>ext.</sub> (mm)	Maximum working pressure		Vacuum	Bend radius (23°C) (mm)	Coils length (m)
		(23°C) (bar)	(55°C) (bar)	(absolute pressure) (23°C and 55°C) (bar)		
20 ±0,75	26,0	5,0	1,4	0,65	100	25   50
25 ±1,25	31,0	5,0	1,4	0,65	125	7   25   50
*27 ±1,25	33,4	5,0	1,4	0,65	135	7
*30 ±1,25	35,8	5,0	1,4	0,65	150	7   25   50
32 ±1,25	38,2	3,3	1,1	0,65	160	7   25   50
*35 ±1,25	41,2	3,3	1,1	0,65	175	25   50
38 ±1,25	44,5	3,3	1,1	0,65	175	25
40 ±1,25	47,2	3,3	1,1	0,65	200	25   50
*42 ±1,25	49,4	3,3	1,1	0,65	210	25
*45 ±1,25	52,6	3,3	1,1	0,65	225	25   50
50 ±1,50	57,4	3,3	1,1	0,65	250	25   50
*53 ±1,50	61,0	3,3	1,1	0,65	265	25   50
*55 ±1,50	63,2	3,3	1,1	0,65	275	25
*60 ±1,50	68,4	3,3	1,1	0,65	300	25   50
*65 ±1,50	74,0	3,3	1,1	0,65	325	25
*70 ±1,50	79,6	3,3	1,1	0,65	350	25   50
75 -0.5+2,5	85,0	2,3	0,8	0,65	375	10   25   50
80 ±1,50	91,0	2,3	0,8	0,65	400	25   50
90 ±2,00	101,0	2,3	0,8	0,65	450	25
100 ±2,00	111,0	2,0	0,6	0,65	500	25
*120 ±2,00	131,9	2,0	0,6	0,65	600	25

\* Non-standard diameters.

### Other characteristics

#### Material

They consist of a flexible plasticized PVC material in green or yellow or white crystal colour, supported in its mass by a loop (helical thermoplastic – reinforcement) of rigid PVC material.


The materials were subjected to tests according to the standards EN 1186-1:2002 and EN 1186-3:2002 with food simulators A, B and C, complying with the limits defined in regulation (EC) No. 1935 / Commission 2004, modified by Commission Regulation (EU) No. 10/2011 and successive revisions, concerning plastic materials and articles intended to come into contact with foods and beverages.



Note: Food simulators A, B and C are assigned to foods with a hydrophilic character and which can extract hydrophilic substances. Food simulator B should be used for foods with a pH below 4.5. Food simulator C replaces alcoholic foods with an alcohol content of up to 28% as well as foods with an important content of organic ingredients that make them more lipophilic.

## Marking

Suçção SL hoses marking, is done in the helical direction with a minimum as in the example below:

 – DNXX – Ibotec traceability code

Note: XX diameter

## Use



**Do not use with hot water continuously or subject the helical thermoplastic – reinforced hoses (spiral pipe) to pressure for long periods.**

For light duty in suction and discharge applications, in the conduction of water, diluted aqueous solutions of chemicals and solids, for general use in industry and agriculture at an average temperature of -10 °C to +55 °C and in the transfer of fat-free drinks and food at an average temperature -10 °C to +40 °C.

## Mechanical characteristics

Characteristic	Value	Test method
Hydrostatic testing at 23 °C - Minimum burst pressure	DN20 to DN30 -> ≥ 15 bar DN32 to DN65 -> ≥ 10 bar DN65 to DN75 -> ≥ 9 bar DN80 to DN90 -> ≥ 7 bar DN100 to DN120 -> ≥ 6 bar	EN ISO 1402
- Proof pressure <ul style="list-style-type: none"> <li>• DN20 to DN30 -&gt; 6,0 bar</li> <li>• DN32 to DN60 -&gt; 4,0 bar</li> <li>• DN65 to DN75 -&gt; 3,6 bar</li> <li>• DN80 to DN90 -&gt; 2,8 bar</li> <li>• DN100 to DN120 -&gt; 2,4 bar</li> </ul>	No failure, loss, cracking or abrupt distortion.	
Hydrostatic testing at 55 °C - Minimum burst pressure	DN20 to DN30 -> ≥ 5,0 bar DN32 to DN75 -> ≥ 4,0 bar DN80 to DN90 -> ≥ 3,0 bar DN100 to DN120 -> ≥ 2,5 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 -> 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.

Suçção SL 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 Sucção SL 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 Sucção SL hoses in coils. They should not be exposed to temperatures above 50 °C or below -30 °C or to abnormal temperature fluctuations during storage.

Sucção SL 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.

Sucção SL 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.

Sucção SL 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 Sucção SL 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, Sucção SL hoses should be visually examined to determine their suitability for continued use.

Sucção SL 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 Sucção SL hoses, we recommend the use of metallic or plastic fittings, adjusted to the inside diameter of each hose, with splined cannons and with connection systems that can be of the Kamloc type, or of the Geka type, or of the Storz type or with BSP thread (ISO 7). The tightening of joints must always be ensured with Hercules-type pressure clamps.

The assembly of fittings must take into account the effective tightness of the joint, to facilitate the process, clean or soapy water may be used, and grease, lubricants or solvents must not be used.

The adjustment of the Sucção SL hoses in the accessory must be ensured with the controlled tightening of the clamp.

It is recommended that after assembly, the joint should be tested with a hydraulic test at the operating pressure foreseen for use, to detect any leakage or slip of the fitting, if necessary to retighten.

In fixed sight installations Sucção SL hoses should be supported by suitable clamps, mounted to prevent distortion, expansion or contraction during use under pressure or vacuum.



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.

**IBOTEC.**

Apartado 2037 . 3701-906 Cesar – Portugal  
Tel.: +351 256 850 130 – Fax: +351 256 850 139  
[ibotec@ibotec.pt](mailto:ibotec@ibotec.pt) – [www.ibotec.pt](http://www.ibotec.pt)