VENA®
RAIL
(VENA® SIL 200 FR-HL)

This product is recommended for use in water cooling and heating systems, especially in the Railway sector, but also in many others, for cooling any type of engine or equipment where certain security against fire is required. Its high fire resistance properties make it an ideal product for highly sensitive applications such as cooling electric devices like transformers or batteries, as well as electronic equipment like data servers.

The good classification acc. to EN-45545-2 railway standard, proves its good behavior against fire and its low level of fumes density and toxicity.

PROPERTIES

- Blue color hose with smooth inner and outer surface.
- Not affected by anti-freeze or antirust liquids.
- Excellent flexibility to absorb high vibrations, compensate any level difference and improve the assembly process.
- Highly resistant to hardening with very good compression characteristics.
- Excellent resistance to thermal aging and oxidizing agents (oxygen, ozone, UV).
- Operational temperature ranges from -60°C (-75°F) to +200°C (392°F), it may reach up to 220°C (428°F) during short periods of time.
- Manufactured with inner diameters ranging between 6mm and 102mm, in straight lengths from 1 to 4 m (13.12 ft), elbows or any required special shape.

CONSTRUCTION MATERIALS

It is manufactured with a special flame retardant silicone rubber compound with 3 high temperature resistant textile reinforcements in order to meet the safety standards UL-94 and EN-45545-2 Fire protection on railway vehicles - Part 2: Requirements for fire behavior of materials and components" Regulation in the Category R23 and R22.

CONFIGURATIONS

- VENA RAIL PLUS: 4 textile ply. For higher pressure requirements.
- VENA RAIL FLEX: Metal spring wire inserted between the silicone layers. For negative pressure (vacuum) applications and bending radius requirements.

Quantity of reinforcements and wall thickness can be customized as per customer specs. Please, contact your sales office for technical details.

QUALITY AND COMPLIANCE

- The product is classified as HL3 R23 & HL2 R22 acc. to European standard EN-45545-2.
- The product is classified as V0 acc. to flammability spec. UL-94.
- Silicone rubber used in compliance with the RoHS Directive 2002/95/EC and its subsequent amendments including the RoHS2 Directive 2011/65/EU and RoHS3 Directive 2015/863.

TECHNICAL SPECIFICATIONS

Inner Diameter		Wall thickness		Working Pressure		Bursting Pressure	
				ISO 1402		ISO 1402	
mm	inch	+1.0/ -0.5 mm	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F
6	1/4	4.30	0.17	30.6	443.8	91.8	1331.4
10	3/8	4.30	0.17	20.4	296.0	61.2	888.1
13	1/2	4.30	0.17	15.7	228.0	47.2	684.1
19	3/4	4.30	0.17	10.8	156.3	32.3	468.9
22	7/8	4.30	0.17	9.5	137.6	28.5	412.9
25	1	4.30	0.17	8.2	119.0	24.6	356.9
28	1 1/8	4.30	0.17	7.4	107.9	22.3	323.6
32	1 1/4	4.30	0.17	6.4	93.1	19.2	279.2
35	1 3/8	4.30	0.17	5.9	85.8	17.7	257.25
38	1 1/2	4.30	0.17	5.4	78.4	16.2	235.3
48	1 7/8	4.30	0.17	4.4	63.1	13.1	189.38
51	2	4.30	0.17	4.0	58.5	12.1	175.6
54	2 1/8	4.30	0.17	3.8	55.8	11.5	167.28
60	2 3/8	4.30	0.17	3.5	50.2	10.4	150.63
63	2 1/2	4.30	0.17	3.3	47.4	9.8	142.3
76	3	4.30	0.17	2.7	39.4	8.1	118.1
89	3 1/2	4.30	0.17	2.3	33.6	7.0	100.9
102	4	4.30	0.17	2.0	29.4	6.1	88.1

LIMITATIONS

- Respect the working pressure established values.
- Gas oil and oil stains do not damage the hose, but it should not be used to transport fuel or oil, nor be submerged in these liquids.
- The standard construction is not recommended for applications with negative pressure (vacuum). In these cases, a special construction with a metal wire reinforcement can be added to the hose, as indicated in the “Configuration” section.
- Not recommended for the transport of abrasive particles.

CONTACT

IMPORTANT: The Company reserves the right to change, amend, modify, suspend, continue or terminate all or any part of this Document at any time without notice. It is the user's responsibility to ensure the suitability and safety of the VENAIR products for all intended uses. All the tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of the hoses in any particular application.

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Fluid solutions. Solid performance.