

PS GSG_75		Specification for Propane nitrile Gas for GIS		No.	PSGSG- 075
				Date:	10.03.22
				Product:	General
				Sheet:	1/2
1.0	1.1	General Description: This specification governs the technical requirements of propane nitrile Gas filled and stored in cylinders.			
2.0	2.1	APPLICATION : The Gas shall be blended with Co2 and O2 and used as an insulating medium for T&D high voltage equipment. This equipment can be Gas Insulated circuit breakers and Gas insulated power equipment.			
3.0	3.1	Quantity: 2 Nos of Cylinder (Each Cylinder Contains 2.27 Kg of propane nitrile Gas)			
4.0	4.1	General properties :			
	4.1	Chemical Name: Propanenitrile, 2,3,3,3-tetrafluoro-2- (trifluoromethyl)			
	4.2	Chemical Formula: iso-C3F7CN			
	4.3	Purity: Fluid should have purity >99.0 % by wt.			
	4.4	Physical state of Gas in Cylinder: Fluid can either be in gaseous state or in liquid state while supplying.			
	4.5	Moisture: The moisture content in the fluid should be less than 200.0 ppm(v/v).			
	4.6	Gas Cylinders: Gas shall be supplied with NEW cylinders and valves manufactured and inspected by the approved suppliers/inspection agencies.			
	4.7	Compatibility: Gas Should be compatible with Epoxy, Copper, Aluminum, Stainless Steel and other GIS material.			
	4.8	Shelf Life: The Shelf life of the Gas shall be 24 months from the date of manufacturing when stored in the original packing material and stored at room temperature.			

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5.0	5.1	<p>TECHNICAL : The Gas should have following physical properties at 25°C:</p> <table border="1"> <thead> <tr> <th>Property</th> <th>SI Unit</th> </tr> </thead> <tbody> <tr> <td>Molecular Weight</td> <td>195 g/mol</td> </tr> <tr> <td>Flammability in air</td> <td>Non-Flammable</td> </tr> <tr> <td>Boiling Point</td> <td>-4.7°C</td> </tr> <tr> <td>Freezing Point</td> <td>-118°C</td> </tr> <tr> <td>Ideal Gas Density at 1 bar</td> <td>7.9 kg/m³ (at 1 bar)</td> </tr> <tr> <td>Vapor Pressure</td> <td>297 kPa</td> </tr> </tbody> </table>	Property	SI Unit	Molecular Weight	195 g/mol	Flammability in air	Non-Flammable	Boiling Point	-4.7°C	Freezing Point	-118°C	Ideal Gas Density at 1 bar	7.9 kg/m ³ (at 1 bar)	Vapor Pressure	297 kPa
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6.0	6.1 6.2 6.3 6.4 6.5 6.6	<p>DOCUMENTS TO BE SUBMITTED WITH QUOTATION : In order to make a preliminary assessment as to whether the gas cylinders will meet the regulations of the Department of Explosives/Department of Transportation USA, the supplier shall submit a SAMPLE set of documents as listed below along with the quotation.</p> <p>6.1 Specification to which the carrier gas cylinders are manufactured and the name and address of the manufacturer.</p> <p>6.2 Record of chemical analysis of the material used for the cylinders.</p> <p>6.3 Record of Physical tests of the material used for the cylinders.</p> <p>6.4 Specifications to which the valves are manufactured.</p> <p>6.5 Filler's certificate indicating filling ratio at which each cylinder has been filled.</p> <p>6.6 Name and address of the manufacturer of gases and record of tests conducted to A statement in duplicate showing the serial number of the cylinders.</p>														
7.0	7.1	<p>DOCUMENTS TO SUPPLIED BEFORE SHIPMENT :</p> <ol style="list-style-type: none"> 1. Chemical Composition Report. 2. Purity report of the fluid. 3. Moisture content report of the Gas. 4. Weight of the gas in each cylinder. 														
8.0	8.1 8.2	<p>MARKING :</p> <p>8.1 Identification Marking: Each cylinder shall be durably and legibly marked by stamping, engraving or similar process with the following, preferably at the valve end and off the cylindrical part.</p> <p>8.2 Other Markings: Each cylinder shall be marked by stamping, engraving or similar process with the following details:</p> <ol style="list-style-type: none"> a) Manufacturer's mark. b) Inspection agency's mark c) Rotation No. (Serial No.) 														
9.0	9.1	<p>SHIPMENT : Cylinders can be shipped on the deck in conformance with shipping regulations.</p>														
10.0	10.1	<p>Guarantee: Against faulty material and workman ship.</p>														

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