

SUPERTHERM PIPE SUPPORTS



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A heavy duty easy to install prefabricated pipe support system, complete with all fittings. Supertherm pipe Supports are made from specially formulated chemical system that result in high density rigid polyurethane foam. The very nature of the material immediately yields several advantages :-

PROPERTY

- Wide density range possible
- Pre-engineered at our factory
- Installation time
- Material has a closed cell structure
- Excellent 'K' Value
- Good fire resistance
- Close dimensional tolerances
- Supplied in assembled condition, Complete with all metal attachment
- Special sizes, shapes and finishes

ADVANTAGES

- Higher densities enable higher loads without Increase in surface area.
- No sawing and shaping at site. The support precisely matches pipe's OD.
- Dramatically reduced.
- Does not permit water penetration. No wet & Dry rot.
- Provides vastly superior insulation as compared to timber and other materials. No condensation at support point. So no drips, puddles or energy Wasted.
- Improved safety and durability at site.
- Pipe Support thickness precisely matches insulation thickness, resulting in neat finish at support location.
- Improved speed of installation Joint-free in the load bearing area, even for larger diameters of pipe.

on request Non-standard sizes and shapes can be manufactured to suit specification. Supports can be supplied with a factory-applied coat of fire-resistive Mastic, which also serves as a vapour barrier, on the exposed surface.



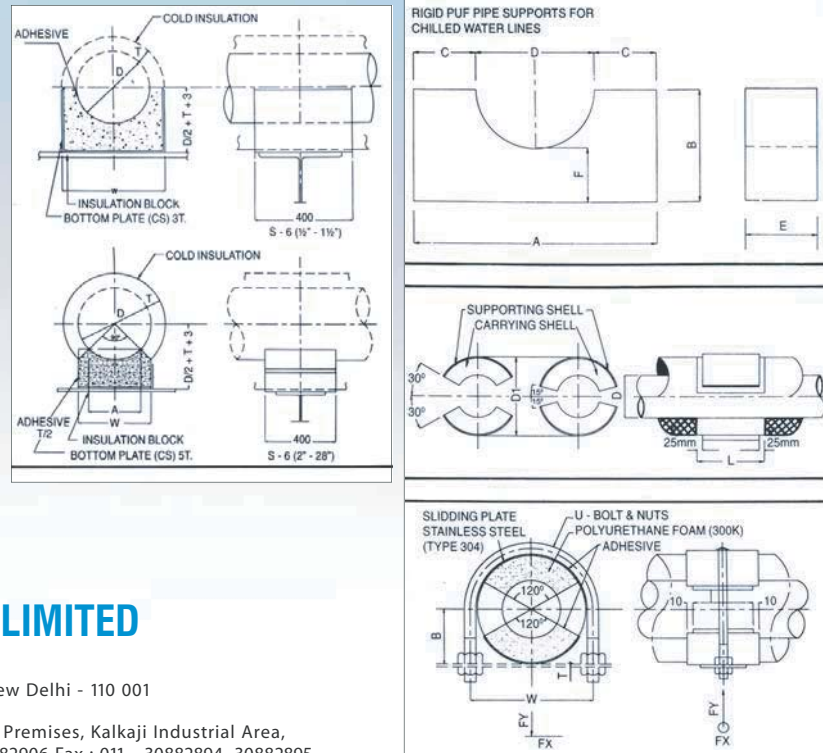
Physical Properties For Different Densities

Density (Kg/m ³)	% Closed Cells	Water Vapour Transmission (gms/m ² 24 hrs)	Compression Strength (KPa)	Tensile Strength (KPa)
1200				
120	94	45	1500	1600
180	94	30	2900	2500
250	96	25	4900	3100
320	96	15	8200	5000

CFC FREE, higher densities are available
Support length max. 150, 300, 450, 500, 600, 700.

Comparison With Wood

Material	Density (Kg/m ³)	'K' Value at 10 Deg C	Max Temp. deg C	Min. deg C	Fire Rating
Oak	740	0.159	65	0	Poor
Mahogany	560	0.144	65	0	Poor
Supertherm	80	0.023	110	-185	class 'P' as per BS 476
	120	0.031	110	-185	part-5
	160	0.033	110	-185	



LLOYD INSULATIONS

ISOLOYD NILFLAME

SUPERFOAM

SUPERTHERM

COLD & CRYOGENIC INSULATION SYSTEM



LLOYD INSULATIONS (INDIA) LIMITED

Registered Office: Punj House M-13, Connaught Place, New Delhi - 110 001
Phones : 011 - 23415621, 41517245, Fax : 011 - 23416255.
Regional Offices: New Delhi Post Box No. 4321, Punj Star Premises, Kalkaji Industrial Area, Kalkaji, New Delhi - 110 019. Phones : 011 - 30882900 - 30882906 Fax : 011 - 30882894, 30882895.
E-mail : lloyd@del2.vsnl.net. in/LII_DELHI@eth.net
Mumbai 386, Veer Savarkar Marg, Prabhadevi, Mumbai - 400 025.
Phones : 022 - 30480000, 30480110 Fax : 022 - 24376858 / 24373557. E-mail : lloyd@giasbm01.vsnl.net.in
Kolkata 6, Middleton Street, Kolkata - 700 071.
Phones : 033 - 22401606, 22475479, 30585201, 30585202, 30585211
Fax : 033 - 22402629. E-mail : lloyd@cal2.vsnl.net. in
Chennai 5, Haddows Lane, Nungambakkam, Chennai-600 006.
Phones : 044 - 28273753 / 5506 / 8418, 28267964 / 53, 28283031, 28277965, 30908368, 30283753, Fax : 044 - 28279728. E-mail : lloyds@dataone.in
Visit us at: www.lloydindia.com or www.lloydinsulation.com



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LLOYD NILFLAME

SUPERTHERM

SUPERFOAM

LLOYD FOAM CAST-IN-SITU

ISOLOYD NILFLAME



Rigid Polyisocyanurate foam insulation, a specialist low temperature and cryogenic insulation

Isoloyd Nilflame

Rigid Polyisocyanurate foam insulation, a specialist low temperature and cryogenic insulation which as low thermal conductivity, closed cell, moisture resistance and enhanced compressive strength at low temperature, whilst not compromising its elasticity so as to avoid cracking.

CFC, Free

Isoloyd Nilflame is the only 'CFC HCFC FREE' Polyisocyanurate Insulation product, designed within the guideline of the Montreal Protocol, 1987, for the protection of the Ozone layer. It is also available as ZERO ODP foam.

Better Extreme-temperature Performance

Unlike most thermoplastics, Isoloyd Nilflame has low smoke & toxic gas emission, and will not melt or drip in fire. It has low flame spread and is not easily ignitable. It also has a higher hot surface performance Temperature of 150° C. this makes it ideal for use directly over steam or electrical tracing.

Its fire classification meets even the stringent requirements of the British Board of Trade for shipboard insulation as per BS 5608, the Indian Navy; and those of the US Bureau of Mines.

Insulation Performance

Isoloyd Nilflame is amongst the most thermally efficient insulation materials available and retains its thermal efficiency under the most severe operating conditions due to its closed cell structure and resistance to moisture absorption. With Isoloyd Nilflame insulation thickness can be reduced as compared to other materials like polystyrene foam, cellular glass and fibreglass. Lower thickness exposes lower surface area for expensive vapour barrier and outer cladding.

Ease Of Application

Resistant to almost all solvents, Isoloyd Nilflame is compatible with cold applied adhesives, sealants and Vapour-barrier mastics. Isoloyd Nilflame is available in boards, pipe sections, radiused and bevelled lags, with or without factory-laminated facings.

The most suitable insulation for SHIPS, LNG plants & buildings interiors. The most suitable insulant for LNG pipeline insulation.

Superfoam

Easy-Fit Polyurethane Foam for low temperature applications & chilled water pipeline insulation.

Superfoam Mouldable Insulation

Like other urethane foam insulants, Superfoam has low thermal

conductivity, low smoke emission and low water vapour permeability. Superfoam can be factory moulded to any shape and for most applications, the need for a facing material is completely eliminated as the product comes out of the factory with a self skin formation.

CFC Free

Superfoam is CFC, HCFC free Polyurethane Foam insulation product as per Montreal protocol 1987. Superfoam is now available as ZERO ODP foam.

An Insulant For All Seasons

Resistant to all solvents, Superfoam is compatible with cold adhesives, sealants and vapour barrier mastics. Superfoam is available in boards, pipe sections radiused bevelled lags, with or without factory laminations.

Dramatically Reduces Installation Time

Since Isoloyd Nilflame and Superfoam insulants are mouldable to any shape, they can be prefabricated in various forms that fits your application precisely. Apart from our by now-famous slabs and pipe sections we offer them in 5 other standard application forms.

Foam-plus-mineral Wool 'Sandwich' Pipe section:

The most elegant solution for heat traced lines in systems operating at dual temperatures. It is a combination of first layer Rockwool Mattress followed by Superfoam / Isoloyd Nilflame preformed insulation or applied Cast-in-Situ.

Horton Sphere Petals

A double layer overlapping system of curved 1m x 1m tiles that precisely fit a Horton sphere, enabling complete re-insulation during normal maintenance shutdowns.

New Generation Shiplap Pipe section

The pipe sections are also available as SHIPLAP edge finish, making it most ideal for extreme low temperature lines. The shiplap edge provides firm barrier to the passage of moisture / vapour from outside to the cold pipeline surface. With aluminium foil lamination the pipe sections fixed with adhesive and the extended foil on one side stuck with aluminium tape provides a very fast application and acts as prefabricated vapour barrier cum final finish pipeline insulation material.

Pipe-in-pipe Prefab Insulation

A novel site fabricated one-piece insulated

Pipe comprising of a main pipe, superfoam or Nilflame injected insulation and HDPE pipe cladding on top. Spacer blocks of insulation equivalent to insulation thickness is fixed over pipe surface & held in position with bands and HDPE sheet applied over it and hot air welded. Thereafter polyurethane / polyisocyanurate foam chemicals are injected by drilling holes. The foam spreads & dries up fast forming an uniform cover over the pipe and strongly stuck over the pipe as well as to the HDPE sheet.

Preinsulated Pipes

Preinsulated pipelines are manufactured with State-of-the-art In-Situ-Applied Polyurethane Foam insulation over the pipelines and with spirally wound sheet metal cladding. It is available in various dias & thickness and suitable from -30 to 90 deg.C.

Energy Efficiency

Isoloyd Nilflame and superfoam by virtue of low thermal conductivity offers one of the



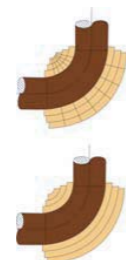
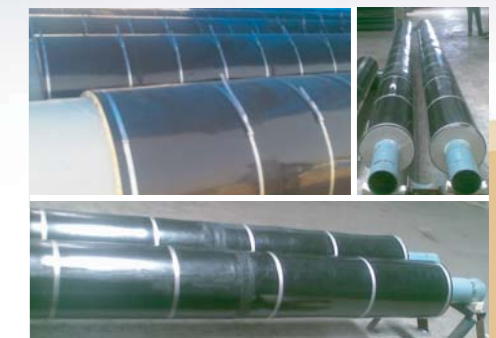
most thermally efficient low temperature insulation solutions available, providing energy saving benefits and lower long term system running costs.

Standard Conformance

Isoloyd Nilflame confirms to IS 12436, BS5608, & ASTM C591
Superfoam confirms to IS 12436, BS5608
Cast-in-Situ application IS : 13205
Thickness of Insulation Calculation : ASTM C-680

Technical Services

Complete application specifications available for all categories of low temperature applications including cryogenics (upto -200° C) including complete details on adhesives, vapour barrier, mastics, contraction joints, pipe supports and cladding.



PROPERTIES	ISOLOYD NILFLAME	SUPERFOAM
Density	32 ± 2 Kg/m ³ (Higher densities also available)	36 ± 2 Kg/m ³ (Higher densities also available)
Compression Strength (in direction of rise)	172 KN/m ² (1.75 kgf/ cm ²)	172 KN/ m ² (1.75 kgf/ cm ²)
Thermal Conductivity 'K' at 10° C (initial 0.017 W/mK)	0.021 W/ mK (0.15 BTU- in/hr. sft. DegF)	0.021 W/mK (0.15 BTU- in/ hr. sft. DegF)
Temperature Limit	150° C to -200° C	+110° C to -180° C
Fire Resistance Properties:		
Surface Spread of Flame (BS: 476 Part-7, 1987)	Class-1	—
Ignitability (BS: 476 Part-5, 1968)	Class 'P' (not easily ignitable)	Class 'P' (not easily ignitable)
Mean Extent of Burn (BS: 4735 Part-7, 1971)	Less than 25mm	Less than 125mm
Toxicity	1.0142	—
Smoke	As per 780.89	—
Oxygen	NES 25	—
Water Vapour Transmission (BS: 4370 Part-2, 1972)	5.84 x 10 ⁻³ μ-m/s N	5.84 x10 ⁻³ μ-m/s N
Closed Cell Content	90% (min.)	90% (min.)
Available Sizes	Boards 1 m x 0.5m Pipe Section upto 250 to 350 mm NB x 1 m long.	Boards 1 m x 0.5m Pipe Section upto 350 mm NB x 1 m long.
	Shiplap pipe sections Thickness from 25mm to 100mm & Cast-in-Situ.	Shiplap pipe sections. Thickness from 25mm to 100mm Cast-in-Situ.
Green Points	5	5

CFC, HCFC free and ZERO ODP FOAM INSULATION.

