NordicFlow® FM Thin Wall Pipes

Product Name

Nordic Flow® FM Thin Wall Pipes

Application

Sprinkler wet pipe and dry pipe. For FM approval of the dry pipe model "I" shall be used. SBF 120: 7 applies to model "E".

Manufacturing Standard

EN 10217-1

Approvals

SBSC certificate nr 10-602, FM 3049678 with Profit/Lede rigid couplings.

General Notes:

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- Maximum working pressure and end loads listed are total of internal and external pressures and loads, based Sch.40 steel pipe with grooved couplings according to ANSI/AWWA C606-97 specifications. With NordicFlow® thin wall pipes maximum pressure is 16 bar.
- For one time field test only, the maximum joint working pressure may be increased one and a halt times the figure shown.
- Warning: Piping systems must always be depressurized and drained before attempting disassembly and/or removal of any components.
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Environmental Impact

Powder coating is a painting program of the highest quality with unbeatable finish. The production process is much more environmentally friendly with powder coating compared to traditional wet painting. This is a strong argument for the choice of treatment. *See the approvals of the BVB and SundaHus.*

Technical Specifications

Design pressure: 16 bar

Design temperature: 0-100°C

Surface Treatment

Untreated, powder coated gray RAL 7012 or hot dip galvanized according to EN10240 and FM approved for dry pipe according to FM1630 4.8 Long Term Corrosion Testing.

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Dimensions And Weight Table

DN mm	Dimension Dyxt mm	Weight kg/m	Weight/pipe 3 meter	Weight/pipe 6 meter
25	33,7 x 2,0	1,64	4,9	9,8
32	42,4 x 2,0	2,1	6,3	12,6
40	48,3 x 2,0	2,4	7,2	14,5
50	60,3 x 2,0	3,0	9,1	18,3
65	76,1 x 2,0	3,9	11,7	23,3
80	88,9 x 2,0	4,5	13,5	27,1
100	114,3 x 2,3	6,7	20,2	40,3
125	139,7 x 2,9	10,3	30,9	61,7
150	168,3 x 2,9	12,5	37,5	75,0
200	219,1 x 3,6	20,1	60,2	120,3

Longitudinally seam welded pipe, lenght tolerance +0/-5mm

Product Code And Ordering Information

Example: *NF-G-65*

NF = Main code for FM approved thin wall pipes
G = Galvanized ACC ISO 10240 A.1, **I** = Galvanized ACC FM 1630 4.8 for dry pipes, **EPOXY** = powder coated gray, **B** = Untreated
065 = Size (in this case DN65 76,1 x 2,0 mm)

Approvals


SVENSK BRAND & SÄKERHETS CERTIFIERING AB
CERTIFIKAT
Nr 10-602
Rör av stål
Lättviktsrör sprinkler
Sprinkler Nordic AB


FM APPROVED
Certificate of Compliance
This certificate is issued for the following:
Steel Pipe for Use with Aboveground Fire Protection Systems
Pipe Specification
NPS, mm
Outside Diameter: Wall Thickness
End Connection
EN 10217
Rolled Groove
Prepared for:
Manufactured at:
Sprinkler Nordic AB
Östra Bangatan 8
Arlandastad, SE-195 60
Sweden
Tecno Tubi SpA
Via Mazzini 240/242
Alfianello (BS)
Italy
FM Approvals Class: 1630 – "Steel Pipe for Automatic Fire Sprinkler Systems"
Approval Identification: 3049670
Approval Granted: October 31, 2014
To verify the availability of the Approved product, please refer to www.approvalguide.com
Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.
Richard B. Dunne
Manager, Fire Protection
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062
FM Approvals
Member of the FM Global Group


FG

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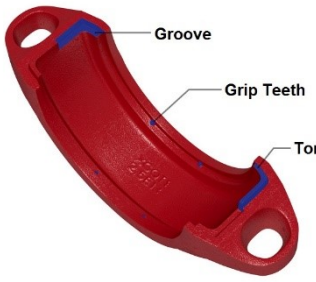
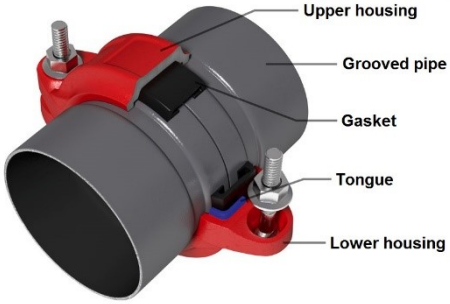
Installation Instructions

Requirements for Couplings

Grooved thin wall pipes in lenghts of 3000 & 6000 mm are ready to be joined by Profit/Lede rigid style grooved couplings. FM approval is dependent on the coupling type.

The construction of the coupling is illustrated on the right.





Requirements for Pipe Support

Nordic Flow® Thin Wall Pipes shall comply with applicable regulations. No extended requirements to the currents standards, except in pipe sizes DN 150 and 200 where the direction changes should be firmly anchored.

For FM approval chapter 2.5.4.5 of the document *2-0 Installation Guidelines for Automatic Sprinklers* is applied.

Maximum horizontal distance between pipe supports

DN (mm)	Distance (m)
25	3,6
32	3,6
40	4,5
50	4,5
65	4,5
80	4,5
90	4,5
100	4,5
> 100	4,5

For sprinkler pipes having a nominal diameter larger than DN 100, the maximum distance between the pipe fittings in the table above may be extended up to 1.5 m provided that: (a) there is at least two pipe supports per pipe section and (b) the minimum vertical load per pipe support is calculated according to Section 2.5.4.3.

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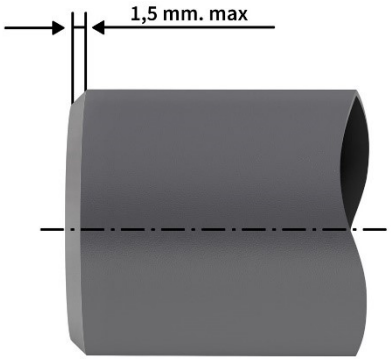
Cutting And Grooving of Pipe

Pipes are square cut. After cutting it is important to make sure that pipe end is free from burrs, dirt and oil. Control especially the area from the pipe end to the groove end. Chamfer must not exceed 1.5 mm. Grooving is conducted in accordance with Table A using Nordic Flow® grooving machine or equivalent device. With hot-dip galvanized and powder coated pipes ensure that no flaking occurs on the gasket seating surface "A" (in Table A next page). If so, the entire surface is sanded clean and afterwards treated with anti-rust paint for powder-coated pipes and zinc paint for galvanized pipes. Note that powder-coated pipes have plastic coating which may crack when machining is performed. We recommend that the surface is first sanded, then grooved and treated with anti-rust paint.



Handling

Powder coating is a painting program of the highest quality with unbeatable finish. Moreover, the production process is considerably more environmentally friendly than the traditional wet paint method. From an installation point of view, it is good to notice that powder coated pipes are smoother and consequently little bit more slippery compared to the wet painted pipe because of their finer surface. Below you will find some practical tips.

- Use vulcanized rubber gloves for optimal grip
- Ensure that pipe bundle is well tied

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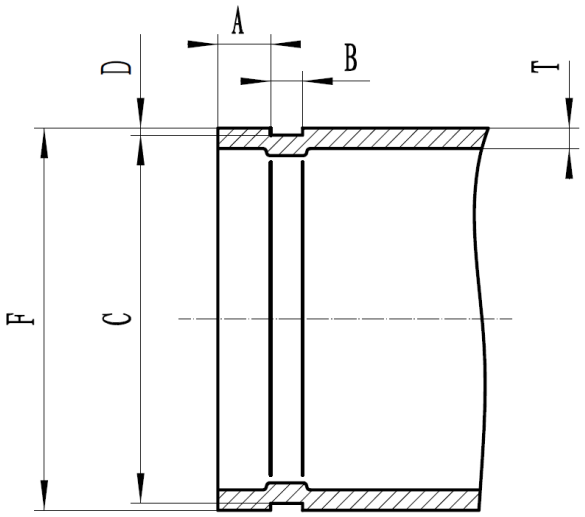
Cold Machining of Pipe - Grooving

Square cut pipes are grooved according to the dimensions in Table A below.



Nominal pipe size		Outer diameter of pipe			Gasket seating surface A	Groove width B	Groove bottom diameter C		Groove depth D*	Wall thickness T	Pipe end diameter F
Inch	DN	Size (mm)	+ mm	- mm	± 0,76 mm	± 0,76 mm	Size	mm	mm	mm	mm
1	25	33,7	0,41	0,68	15,88	7,14	30,2	-0,38	1,6	2,0	34,5
1¼	32	42,4	0,5	0,6	15,88	7,14	38,99	-0,38	1,6	2,0	43,3
1½	40	48,3	0,44	0,52	15,88	7,14	45,09	-0,38	1,6	2,0	49,4
2	50	60,3	0,61	0,61	15,88	8,74	57,15	-0,37	1,6	2,0	62,2
2½	65	76,1	0,76	0,76	15,88	8,74	72,26	-0,46	1,98	2,0	77,7
3	80	88,9	0,89	0,79	15,88	8,74	84,94	-0,46	1,98	2,0	90,6
4	100	114,3	1,14	0,79	15,88	8,74	110,08	-0,51	2,11	2,3	116,2
5	125	139,7	1,4	0,79	15,88	8,74	135,48	-0,51	2,11	2,9	141,7
6	150	168,3	1,6	0,79	15,88	8,74	163,96	-0,56	2,16	2,9	170,7
8	200	219,1	1,6	0,79	19,05	11,91	214,4	-0,64	2,39	3,6	221,5

** Groove depth D is only a reference dimension. Groove bottom diameter C has to be followed.*

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Installation of Grooved Coupling

1. Control the pipe end, gasket seating surface and the groove and make sure that there are no bumps, nicks, surface defects, dirt or loose particles. If so, remove them first to prevent leaks.



2. Unscrew the pre-assembled couplings using an impact wrench.



3. Apply a thin layer of neutral lubricant onto the sealing lips of the gasket. Also apply lubricant to the interior side of the housings.

4. Slide the gasket over the end of the pipe and make sure that it covers the end completely.

5. Bring the two pipe ends together and push the gasket over the end of the pipe. Make sure that the gasket is in the middle and that it covers both pipe ends.

6. The outer diameter of the housing and the groove diameter must match the specifications; please review the table on the next page.

7. Place one housing around the gasket. Once it is placed over the gasket, you shall see that the housing fits in the groove.

8. Stick a bolt through the housing. Make sure that the head of the bolt perfectly fits in the housing


9. Place the second housing over the bolt and turn the nut finger-tight on the bolt. Then place the second bolt and tighten it finger-tight.

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10. Tighten both bolts alternately using an impact wrench with a suitable socket wrench until the coupling is completely closed. You can optionally tighten the bolts to the specified torque using a torque wrench. Applying a higher torque will not improve the sealing and can damage the coupling.

NOTE: For proper sealing, torque standards must be respected. A torque too big will not improve the sealing property of the coupling, on the contrary, it may damage the bolts and housing, even cause disconnections. A torque too small will lead to leakage. Both disconnections and leakage may cause injuries or loss

Other instructions:

1. Always make sure that the rubber gasket is clean, undamaged and suitable for the intended use. Contact Enexia if you notice that something is not right.

2. The outer diameter of the pipe and the size of the groove must conform to the specifications in the table below.

3. The outer diameter of the pipe must match grooved couplings. Couplings with the wrong specifications can and must not be connected to the pipe.

Bolt specifications	Torque (N*M)
M8 (1/4”)	20 ~ 30
M10 (3/8”)	60 ~ 70
M12 (1/2”)	90 ~ 100
M14 (9/16”)	135 ~ 150
M16 (5/8”)	200 ~ 230
M20 (3/4”)	270 ~ 300

Nominal diameter (mm)	Outer diameter (mm)	Angular deviation *
32	42,4	2,3
40	48,3	2,3
50	60,3	2,3
65	76,1	1,9
80	88,9	1,6
100	114,3	1,6
125	139,7	1,3
150	168,3	1,1
200	219,1	0,8
250	273	0,7

** Applies to flexible couplings*

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