

Flexible Sprinkler Hose

RASCOFLEX Flexible Sprinkler with Fittings

RASCOFLEX flexible sprinkler fittings are intended to connect the branch line to the sprinkler head by utilizing a flexible stainless steel hose assembly and steel bracket assembly. RASCOFLEX is suitable for use in suspended and hard ceiling applications such as T-Bar ceiling grids, wood, metal stud, or hat furring channel hard lid ceilings. Every package contains one (1) fully assembled stainless steel flexible sprinkler system complete with hose, branch line connection and sprinkler connection as well as the pre-assembled bracket assembly to attach to the ceiling.

RASCOFLEX drops are designed for use in hydraulically intended wet, deluge, pre-action or dry sprinkler systems per NFPA 13, 13R, and 13D guidelines.

SYSTEM COMPONENTS -

Stainless Steel Flexible Sprinkler Hose

- Pre-assembled unbraided or braided stainless steel flexible hose
Available Hose Lengths in - 24" (610mm), 31" (790mm), 40" (1020mm), 48" (1220mm), 60" (1520mm), 72" (1800mm) - Optional factory installed sprinkler head
- Inlet Branch Connection (Nipple) - 1" (25mm) NPT/BSPT connected to rigid branch pipe
- Outlet Connection to Sprinkler Head (Reducer) - 1/2" and 3/4" Outlet Fittings
Available Lengths of Straight Fittings – 4.3" (110mm), 5.3" (135mm), 6.1" (155mm), 11.8" (300mm)
Available Lengths of 90° Elbow Fittings – 4.3" (110mm), 6.1" (155mm) **NOTE: Typically the shorter 90° elbow is used with concealed sprinklers whereas the longer 90° elbow is used with recessed pendent sprinklers.**
- The 6.1" (155mm) straight fitting is standard nipple.

Bracket Assembly

- Pre-assembled Mounting Bracket Assembly
- Bar stock in length – 24" (610mm) / Center open gate bracket / Two side brackets available in lengths
- 48" bracket is also available as special order

STANDARDS & APPROVALS

National Fire Protection Association – NFPA

- NFPA 13: Standard for the installation of sprinkler systems
- NFPA13D: Standard for the installation of sprinkler systems in one & two family dwellings & manufactured homes
- NFPA13R: Standard for installation of sprinkler systems in residential occupancies up to & including four stories in heights

American Society for Testing & Methods – ASTM

- ASTM C635: Standards specifications for the manufacture, performance & testing of metal suspension systems for acoustical tile & lay-in panel ceilings
- ASTM C636: Standards practice for installation of metal ceiling suspension systems for acoustical tile & lay-in panels

International Building Code (IBC) Section 1621 & American Society of Civil Engineering (ASCE) 7.9.6.2.6.2. & 9.6.2.6.2.2.

Factory Mutual, FM Class No. 1637

Underwriter's Laboratories, Inc., UL 2443

TECHNICAL SPECIFICATIONS

| | | | | | | |
|-----------------------------|-------------------|---|------------------------|-------------------------|---|----------------------|
| Maximum Working Pressure | | 200 psi (13.79 bar) 175 psi (12.07 bar) UL & FM | Minimum Bending Radius | | 3" (76mm) - UL / 7" (178mm) - FM * Do NOT bend within 2.5" (63.5mm) from each nut of hose | |
| Maximum Working Temperature | | 300°F (149°C) | | Maximum Number of Bends | See Friction Loss Chart | |
| Connections | Inlet/Branch Line | 1" NPT | | K-Factor | 1/2" Outlet | 5.6 gpm (21.2 l/min) |
| | Outlet/Reducer | 1/2" or 3/4" NPT | | | 3/4" Outlet | 14.0 gpm (53 l/min) |

MATERIAL SPECIFICATIONS

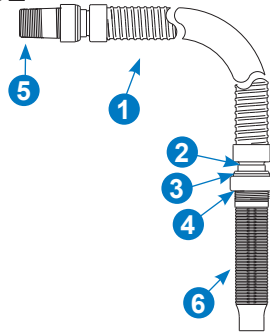
| Part Description | Material |
|-------------------------|-------------------------------|
| Flexible Hose | AISI Type 304 Stainless Steel |
| Braid (When used) | AISI Type 304 Stainless Steel |
| Nut & Nipple | Zinc Plated Carbon Steel |
| Gasket Seal | EPDM |
| Isolation Ring | Nylon 66 |
| Reducers: 1/2" or 3/4" | Zinc Plated Carbon Steel |
| Bar Stock | Zinc Plated SGCC Steel |
| Brackets: Center & Side | Zinc Plated SPCC Steel |

| Job | |
|--------------|--|
| System No. | |
| Location | |
| Contractor | |
| Submitted by | |
| Date | |
| Engineer | |
| Approved | |
| Date | |

PRODUCT DESCRIPTION -

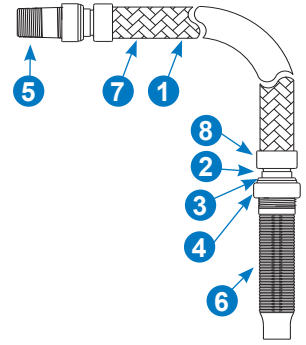
UNBRAIDED FLEXIBLE HOSE

| No | Item Description |
|----|-------------------------|
| 1 | Flexible Hose / Bellow |
| 2 | Isolation Ring |
| 3 | Gasket |
| 4 | Nut |
| 5 | Branch Line Nipple (1") |
| 6 | Reducer |



BRAIDED FLEXIBLE HOSE

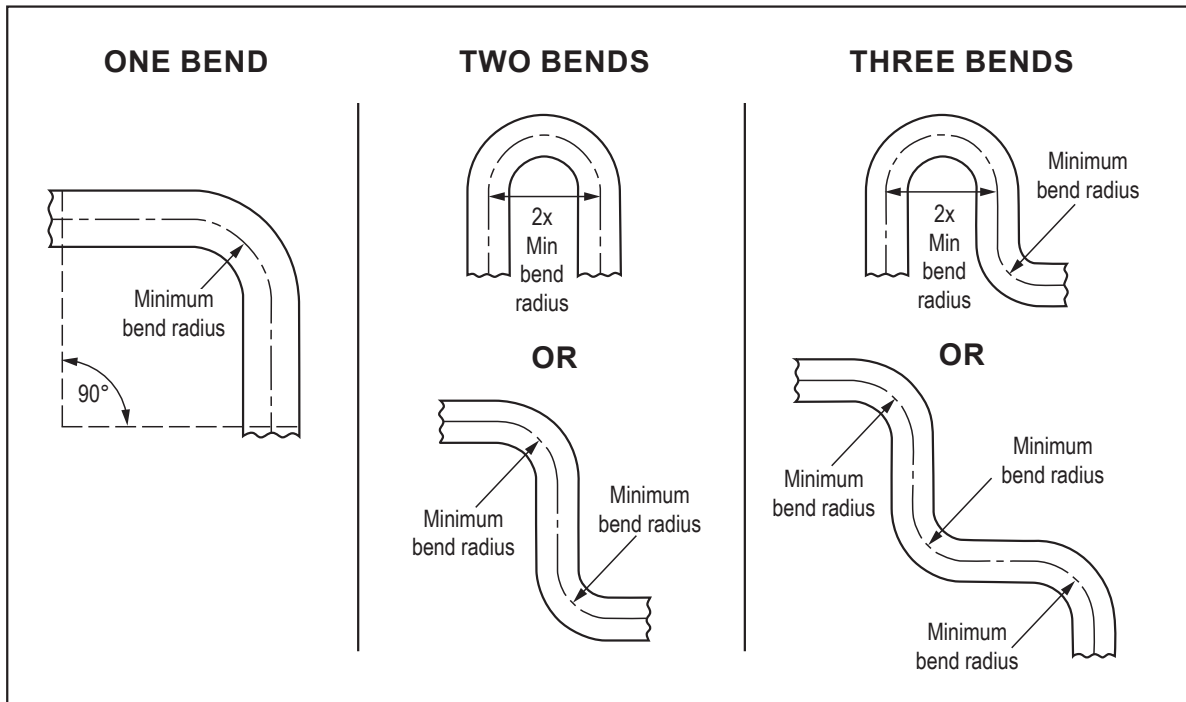
| No | Item Description |
|----|-------------------------|
| 1 | Flexible Hose / Bellow |
| 2 | Isolation Ring |
| 3 | Gasket |
| 4 | Nut |
| 5 | Branch Line Nipple (1") |
| 6 | Reducer |
| 7 | Braid |
| 8 | Welded Collar Fitting |



UL FRICTION LOSS DATA - BRAIDED FLEXIBLE HOSE

| Length of Flexible Hose (inch) | Outlet Size | | Sprinkler K-Factor | Maximum Ambient Temperature °F (°C) | Maximum Working Pressure psi (bar) | Maximum Number of 90° Bends at 3" (76mm) Bend Radius | Equivalent Length of 1" (33.7mm) Sch. 40 Pipe (C=120), ft (m) |
|--------------------------------|-------------|----------|--------------------|-------------------------------------|------------------------------------|--|---|
| | Size (inch) | Type | | | | | |
| 24 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 2 | 10 (3) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 2 | 13 (4) |
| 31 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 3 | 14 (4.3) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 3 | 16 (3.9) |
| 40 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 4 | 21 (6.4) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 4 | 23 (7) |
| 48 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 4 | 24 (7.3) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 4 | 26 (7.9) |
| 60 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 4 | 25 (7.6) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 4 | 30 (9.1) |
| 72 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 5 | 36 (11) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 5 | 33 (10.1) |

FLEXIBLE HOSE BEND CHARACTERISTICS



UL FRICTION LOSS DATA - UNBRAIDED FLEXIBLE HOSE cULus

| Length of Flexible Hose (inch) | Outlet Size | | Sprinkler K-Factor | Maximum Ambient Temperature °F (°C) | Maximum Working Pressure psi (bar) | Maximum Number of 90° Bends at 4" (102mm) Bend Radius | Equivalent Length of 1" (33.7mm) Sch. 40 Pipe (C=120), ft (m) |
|--------------------------------|-------------|----------|--------------------|-------------------------------------|------------------------------------|---|---|
| | Size (inch) | Type | | | | | |
| 24 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 2 | 21 (6.4) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 2 | 29 (8.8) |
| 31 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 2 | 28 (8.5) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 2 | 32 (9.7) |
| 40 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 3 | 45 (12.5) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 3 | 52 (15.8) |
| 48 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 3 | 53 (16.1) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 3 | 59 (18.0) |
| 60 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 3 | 61 (18.6) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 3 | 63 (19.2) |
| 72 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 175 (12.07) | 3 | 65 (19.8) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 175 (12.07) | 3 | 75 (22.9) |

UL NOTES:

- Available data for use with 6.1" straight reducers.
- Sprinkler K-Factor: 5.6 for 1/2-inch reducer and 14.0 for 3/4-inch reducer
- Differences in data between braided and unbraided flexible hoses are due to the construction of hose.
- RASCOFLEX flexible hose systems have been tested and approved by Underwriter's Laboratories, Inc. for use in wet and dry systems per NFPA 13, 13D, 13R and UL2443.

FM FRICION LOSS DATA - BRAIDED FLEXIBLE HOSE

| Length of Flexible Hose (inch) | Outlet Size | | Sprinkler K-Factor | Maximum Ambient Temperature °F (°C) | Maximum Working Pressure psi (bar) | Maximum Number of 90° Bends at 7" (178mm) Bend Radius | Equivalent Length of 1" (33.7mm) Sch. 40 Pipe ft (m) |
|--------------------------------|-------------|-----------|--------------------|-------------------------------------|------------------------------------|---|--|
| | Size (inch) | Type | | | | | |
| 24 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 1 | 9.7 (2.9) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 0 | 11.5 (3.5) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 1 | 9.9 (3) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 0 | 10.2 (3.1) |
| 31 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 2 | 12.4 (3.8) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 2 | 15.8 (4.8) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 2 | 13.7 (4.1) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 2 | 14.5 (4.4) |
| 40 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 2 | 15.9 (4.8) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 2 | 21.6 (6.6) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 2 | 18.5 (5.6) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 2 | 20 (6) |
| 48 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 3 | 19.0 (5.8) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 3 | 25.9 (7.9) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 3 | 22.7 (6.9) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 3 | 24.8 (7.5) |
| 60 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 4 | 23.7 (7.2) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 4 | 33.1 (10) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 4 | 29.1 (8.8) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 4 | 32.2 (9.8) |
| 72 | 1/2 | Straight | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 4 | 28.4 (8.6) |
| | 1/2 | 90° Elbow | 5.6 (80) | 300°F (149°C) | 200 (13.79) | 4 | 40.4 (12.3) |
| | 3/4 | Straight | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 4 | 35.5 (10.8) |
| | 3/4 | 90° Elbow | 14.0 (200) | 300°F (149°C) | 200 (13.79) | 4 | 39.5 (12) |

FM NOTES:

- RASCOFLEX flexible hose systems have been tested and approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13D, 13R, and FM data sheets 2-0, 2-5 and 2-8 on FM1637.
- Sprinkler K-Factor: 5.6 for 1/2-inch reducer and 14.0 for 3/4-inch reducer
- Differences in equivalent lengths are due to varying test methods, per FM 1637 standards.
- Above data of friction loss for use with 6.1" straight reducers.

P/N 9999970510 5/2018