



INSTALLATION GUIDE · ISSUE: OCTOBER 2026

Grooved System Installation Guide

General installation guidance for True North™ grooved couplings and fittings for fire protection systems.

⚠ General guidance. Always follow project specifications, NFPA 13 and the authority having jurisdiction. This guide is subject to review by the True North engineering team.

Approval status. UL Listed and FM Approved grooved fittings, couplings and accessories supplied to project specification. Information in this document is taken from published True North™ product information and is subject to change without notice.

BEFORE YOU START

Important information

General guidance. Always follow project specifications, NFPA 13 and the authority having jurisdiction.

This guide is subject to review by the True North engineering team. This guide describes general good practice for grooved piping joints. It does not replace product-specific instructions, the project specifications, NFPA 13 or the requirements of the authority having jurisdiction. Where they differ, follow the project specifications and the authority having jurisdiction. **Follow the product-specific instructions supplied with each product.**

Safety

- Read these instructions fully before starting work.
- Before working on an existing system, make sure it is depressurized and drained, and that the work is authorized.
- Wear suitable personal protective equipment for the work and the site.
- Installation should be carried out by trained, competent personnel.

Product information

- Check the product, model number and size against the project documents and the True North™ data sheet for the product.
- Use True North™ grooved products with grooved pipe to AWWA C606 groove dimensions.
- Dimensions, pressure ratings, weights and product-specific installation information: contact us for details.
- UL Listed and FM Approved grooved fittings, couplings and accessories supplied to project specification.
- Until listings are issued, confirm acceptance with the authority having jurisdiction and the engineer of record.

Receiving & storage

- Check deliveries against the packing list and report any damage.
- Store products clean and dry, and protect gaskets from damage, contamination and direct sunlight.
- Keep components together as supplied until installation.

Other products

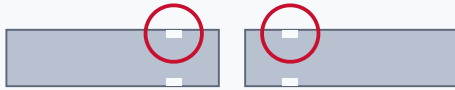
- Flange adapters, grooved and split flanges, mechanical tees and crosses, reducers and caps have their own requirements.
- For product-specific installation instructions, contact us for details.
- Pipe hangers and supports: install to NFPA 13, the project specifications and the authority having jurisdiction.

The steps in this guide apply to a typical grooved coupling joint: inspect the pipe and grooves, check and lubricate the gasket, position the gasket, fit the housings, tighten the bolts evenly until the pads meet, then inspect the joint.

INSTALLATION STEPS

Grooved coupling joint: general steps

Check pipe ends and grooves

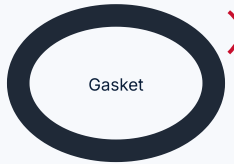


Schematic, not to scale

1 Inspect the pipe and grooves

- Check that pipe ends are square, clean and free from damage, burrs, loose scale, dirt and paint in the gasket seating area.
- Groove the pipe to the manufacturer's specification and AWWA C606. Roll grooving or cut grooving: follow the manufacturer's instructions for the pipe wall.
- Check grooves with a go/no-go gauge.
- Confirm the pipe size, pipe OD and product size match the project documents and the product data sheet.
- Do not install on damaged, out-of-round or incorrectly grooved pipe. Contact us for details if in doubt.

Thin coat of lubricant



Schematic, not to scale

2 Check and lubricate the gasket

- Confirm the gasket grade is correct for the coupling, the service and the temperature, and that the gasket is free from cuts, tears or other damage. Never reuse damaged gaskets.
- Apply a thin coat of a lubricant compatible with the gasket material to the gasket lips and outside surface.
- Do not use petroleum-based lubricants on EPDM gaskets.
- Dry-pipe and freezing service need suitable gaskets and lubricants. Contact us for details.

INSTALLATION STEPS

Grooved coupling joint: general steps (continued)

Gasket centred between the grooves



Schematic, not to scale

3 Position the gasket

- Fit the gasket over one pipe end so that it does not overhang the pipe end.
- Bring the second pipe end into line and slide the gasket into position, centred between the two grooves.
- Make sure no part of the gasket extends into either groove.

Housing keys engage both grooves



Schematic, not to scale

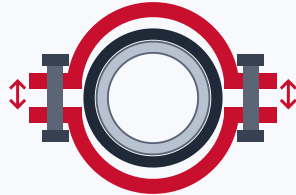
4 Fit the housings

- Place the housings over the gasket so that the housing keys engage fully in the grooves on both pipe ends.
- Do not use the housings to pull pipe ends together.
- For flexible couplings, keep the specified end gap between the pipe ends.
- Make sure the gasket is not pinched or rolled between the housing segments.

INSTALLATION STEPS

Grooved coupling joint: general steps (continued)

End view: tighten evenly, side to side

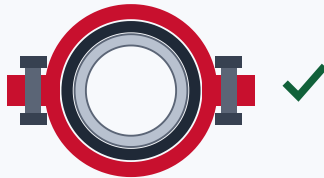


Schematic, not to scale

5 Fit the bolts and tighten evenly

- Insert the bolts and fit the nuts finger tight, with bolt heads seated correctly in the housing.
- Tighten bolts evenly and alternately; do not fully tighten one bolt first. Keep the gaps between the bolt pads equal on both sides.
- Continue until the bolt pads meet, unless the product instructions specify a pad gap. Flexible and angle-pad designs (TN-FC-01, TN-RC-02) may have a specified pad gap.
- Torque bolts per the product instructions. Do not over-tighten.

End view: bolt pads meet evenly



Schematic, not to scale

6 Inspect the completed joint

- Check that the bolt pads meet evenly on both sides (or have the pad gap specified in the product instructions) and the housing keys are fully engaged in both grooves.
- Check that the gasket is not visible or pinched at the bolt pads.
- Correct any joint that does not meet these checks before the system is tested or put into service.

AFTER INSTALLATION

Testing, supports, gaskets & maintenance

Testing

- Hydrostatically test new systems at not less than 200 psi (13.8 bar) for 2 hours, or 50 psi (3.4 bar) above the maximum working pressure where that exceeds 150 psi, per NFPA 13.
- Do not exceed the product's rated pressure.
- Test in accordance with the project specifications and the requirements of the authority having jurisdiction.
- Inspect all joints during testing and correct any that leak or do not meet the inspection checks, with the system depressurized and drained.

Supports & restraint

- Flexible joints need support or restraint to prevent deflection or separation.
- Provide support or restraint at every change of direction.
- Support and brace piping in accordance with NFPA 13, the project specifications and the authority having jurisdiction.

Gaskets & lubricants

- Select the gasket grade for the service and temperature.
- Dry-pipe and freezing service need suitable gaskets and lubricants.
- Do not use petroleum-based lubricants on EPDM gaskets.
- Never reuse damaged gaskets.

Inspection & maintenance

- Inspect, test and maintain the system as required by the authority having jurisdiction and the applicable standards.
- Before opening a joint, make sure the system is depressurized and drained.
- Inspect the gasket and components when a joint is opened, and replace any that are damaged.

Installation checklist

☐	Product, model number and size checked against project documents and data sheet
☐	Pipe ends inspected; grooves checked with a go/no-go gauge
☐	Gasket grade checked for service and temperature, and lubricated with a compatible lubricant
☐	Gasket centred between the grooves, not in either groove
☐	Housing keys fully engaged in both grooves
☐	Bolts tightened evenly and alternately, per the product instructions (pads meet, or specified pad gap)
☐	Completed joint visually inspected
☐	Supports / restraint provided, including at every change of direction
☐	System hydrostatically tested per NFPA 13, project specifications and the authority having jurisdiction

Questions? Contact us for details

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