

3030 - Mechanical Joining Procedures

Effective 7/2/2012

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1. General

1. All mechanical joints in plastic piping systems should be made in accordance with these written procedures. These procedures are designed to produce joints that are gas tight and that resist forces encountered in normal service. Stab, compression, bolt-on saddle, and bolted compression fittings may be used to join plastic pipe. Mechanical fittings are the preferred method of joining pipe in wet or muddy conditions. Mechanical fittings are also the preferred method for repairing pipe less than 2" in diameter.
2. Mechanical fittings used to join plastic pipe shall be specifically designed for use on plastic pipe and shall be designed to provide enough pipe restraint to sustain the pullout forces encountered.
3. Stiffeners must be used with all mechanical fittings used to join plastic pipe ends.
4. Mechanical fittings should be installed according to the manufacturer's instructions. In most cases, specific assembly instructions can be found on or in the fitting's packaging.

2. Stab Fittings

1. Verify the pipe size with the selected fitting.
2. Cut the pipe ends square.
3. Clean the pipe thoroughly to ensure that there is no dirt, grease, or oil in the assembly area.
4. Inspect the pipe for surface defects. If excessive scratches or gouges are visible, cut off the defective area and start over.
5. Chamfer or form the ends of the pipe with a chamfering or forming tool, according to the manufacturer's instructions. Make sure to use the correct manufacturer's tool. Inspect the prepared ends for any rough edges or irregularities.
6. Use a felt-tip pen to mark the proper stab depth on the pipe. Refer to the manufacturer's installation instructions for proper stab depth. In most

7. Stab the pipe completely into the fitting until it bottoms out. Check the reference mark on the pipe. It should be within 1/8" from the end of the fitting.
8. Inspect the joint. Visually check the fitting and pipe to ensure that they are properly joined and aligned correctly. Pull on pipe and coupling to ensure that they are securely fastened.
9. After the joint is inspected and deemed satisfactory, record the date and installer's name (first initial and complete last name) on the pipe with a permanent felt-tip marker.

3. Compression Fittings

1. Verify the pipe size with the selected fitting.
2. Cut the pipe ends square.
3. Remove any burrs from outside or inside the pipe ends. Clean the pipe thoroughly to ensure that there is no dirt, grease, or oil in the assembly area.
4. Inspect the pipe for surface defects. If excessive scratches or gouges are visible, cut off the defective area and start over.
5. Use a felt-tip pen to mark the proper insertion depth on the pipe. Refer to the manufacturer's installation instructions for proper insertion depth.
6. Loosen the fitting's compression nut until the seal ring is no longer compressed. Do not disassemble the fitting.
7. Insert the pipe completely into the fitting until it bottoms out.
8. Tighten the compression nut until it shoulders against the fitting. Do not over tighten. Check the reference mark on the pipe. It should be within the manufacturer's specifications from the end of the fitting.
9. Inspect the joint. Visually check the fitting and pipe to ensure that they are properly joined and aligned correctly. Pull on the pipe and coupling to ensure that they are securely fastened.
10. After the joint is inspected and deemed satisfactory, record the date and installer's name (first initial and complete last name) on the pipe with a permanent felt-tip marker.

4. Bolt-On Saddle Fittings

1. Verify the pipe size with the selected fitting.
2. Clean the pipe thoroughly to ensure that there is no dirt, grease, or oil in the assembly area.
3. Inspect the pipe for surface defects. If excessive scratches or gouges are visible, select another location along the pipe to install the fitting and start over.
4. Place the top and bottom halves of the saddle on the cleaned section of pipe. Insert the bolts through the top half into the bottom half.
5. Tighten all bolts, working diagonally in a crossing pattern, without using excessive force until the flanges of the saddle come together. Do not rotate

6. Inspect the joint. Visually check the fitting and pipe to ensure that they are properly joined and aligned correctly.
7. After the joint is inspected and deemed satisfactory, record the date and installer's name (first initial and complete last name) on the pipe with a permanent felt-tip marker.

5. Bolted Compression Fittings

1. Verify the pipe size with the selected fitting.
2. Cut the pipe ends square. Remove any burrs from cut pipe prior to installing coupling. Pipe surfaces must be free of longitudinal scratches for at least 6" from pipe ends. NOTE: Gap between pipe ends shall not exceed 2".
3. Install properly identified insert stiffener into plastic pipe ends.
4. Mark each pipe 6" from end.
5. Apply soap water to gaskets and pipe ends.
6. Without disassembling, pull coupling onto one pipe.
7. Pull coupling back onto second pipe and center between marks.
8. Uniformly torque nuts to 50-55 ft. lbs.
9. Inspect the joint. Visually check the fitting and pipe to ensure that they are properly joined and aligned correctly. Pull on pipe and coupling to ensure that they are securely fastened.
10. After the joint is inspected and deemed satisfactory, record the date and installer's name (first initial and complete last name) on the pipe with a permanent felt-tip marker.

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