

# MAKING A FIRE HYDRANT CONNECTION HYMAX GRIP ELBOW 450 CASE STUDY, MYRTLE BEACH, SC

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## THE CLIENT

The City of Myrtle Beach has a population of approximately 27,000 and is growing. As a beach resort, this number swells in the summer months. Dean Roughton has 17 years' experience working for the city's Public Works Department, and currently serves as the crew supervisor responsible for repairing all water pipe repairs.

## THE SITUATION

Roughton's crew needed to connect a fire hydrant to a water main, normally a straightforward job. There were a few obstacles thrown in the way however. While the weather was fine to start, it began to rain after an hour making conditions wet and muddy. During excavation, the crew uncovered six inches of fiber optic line directly in the way of making a connection to the 12 inch water main. "When we uncovered that, we knew that it was going to be one of those days," said Roughton. "It was an issue that would make the installation significantly more complicated." To get around it, the crew needed to install a water main valve at a 45 degree angle and then use a 45 degree coupling for the pipe to go into the hydrant horizontally so it could stand perpendicular to the ground.

## THE CHALLENGE

The standard solution of using a mechanical joint was not practical since it did not have the flexibility to properly adjust the connecting pipes from the water main into the hydrant. Any kind of adjustment would be difficult to ensure a proper connection while avoiding the fiber optic line. Making these kinds of adjustments with an MJ could risk improperly altering the inside gasket leading to a faulty seal. How could Roughton and his crew connect the hydrant quickly and easily (and get out of the rain)?

## THE SOLUTION

A 45-degree HYMAX GRIP ELBOW offered the flexibility to make the connection instead of trying to install a mechanical joint that could not be easily adjusted. Roughton had prior success installing the HYMAX GRIP SwivelJoint, a product whose angle can be adjusted on the spot from 0o to 90o. His success with this product made him more than willing to give the 45 Grip a try.

Available at a 90-degree angle as well, the HYMAX GRIP ELBOW could be stab-fit onto the pipe and the hydrant's connecting valve with room to adjust the pipes. "The stab-fit



nature of the coupling made all the difference in the world," said Roughton. "It allowed us to get pipes and the coupling in just the right way so a secure connection could be made without a struggle."

The coupling's radial closing mechanism held the pipes tightly in place during installation. This gave the installers full control over the gap between pipes, which helped make the job vastly easier given the 45 degree angles of the connecting pipes and the wet, muddy conditions. Once the pipes and coupling were in place, it took little time to easily close the coupling's two top-facing bolts, a big contrast to an MJ with multiple bolts requiring under digging for space to close bolts closest to the ground.

## DURABILITY AND FLEXIBILITY

The product also offered a whole new level of durability. The GRIP is made of highly durable ductile iron, and can withstand working temperature of up to +125°F. HYMAX GRIP meets or

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exceeds standards AWWA C219, NSF-61 and NSF-372.

The coupling's dynamic deflection would reduce the risk of damage and cracking due to ground shifts and temperature changes. The HYMAX GRIP's patented gasket effectively transforms the pipe joint into a flexible connection and allows dynamic deflection of the pipe of up to 4 degrees per side. The product can also adapt to out-of-round pipe shape (up to 0.16") for optimum fit on both ends with its innovative radial closing design and sealing system that can eliminate installation errors. "When it comes to fire hydrants," said Roughton "you want to know that the connection will be strong and will last. You can't have complications when fire fighters needs to use a hydrant with a fire blazing."

## UNIVERSAL GRIP

The HYMAX GRIP's patented pipe grip has a universal gripping system designed to restrain metal and plastic pipes and allows transition capability of up to 1.1". It can work with a wide range of pipe diameters, replacing the need to use dedicated products to reduce inventory costs and save shelf space. The special GRIP chain offers circular restraint around the pipe, unlike typical wedge-style restraints that point-load and weaken the pipe. As the pipe applies axial pressure, the GRIP chain increasingly tightens over the pipe, preventing pullout.

## ADVANCED ANTI-GALLING

The GRIP's nuts and bolts have advanced anti-galling using a unique dry treatment process with Molecular Anti-Galling (MAG) based on embedded zinc to prevent galling and enables repeated bolt tightening. It also eliminates the need for grease, preventing dust and dirt build-up. The HYMAX GRIP's fusion-bonded epoxy coating also helps insulate against corrosion.

## CONCLUSION

HYMAX GRIP ELBOW had a number of features that made it faster and easier to complete the job under difficult circumstances. The coupling restraint offered the flexibility required to make the connection instead of installing a mechanical joint that could not be easily adjusted between the pipes. The coupling's dynamic deflection would reduce the risk of damage and cracking due to ground shifts and temperature changes, giving Roughton peace of mind that the connection would last over the long haul. The radial closing mechanism held the pipes tightly in place during installation to control the gap between pipes, an important feature given the angles of pipe involved and the wet, muddy conditions. Finally, the fact that the HYMAX GRIP could work with a wide range of pipe diameters meant the need for dedicated products could be minimized, reducing Roughton's inventory costs while saving shelf space. 💧💧