



Use of SYNKO-FLEX Preformed Adhesive Waterstop on

Steel, PVC, HDPE, Fiberglass

Pipe, Sleeves, and Collars

Used in Cast-in-Place Concrete Construction

The Problem:

Cast-in-place concrete construction often requires the embedment or casting of pipe, sleeves, and collars into concrete walls or floor slabs. These penetrations are often made of steel, PVC, HDPE, or spun fiberglass materials, which have different coefficients of thermal expansion to that of concrete. During the hydration and curing process, concrete tends to shrink and pull away from these materials, forming a cold joint. The sealing of these embedment materials is typically by means of an elastomeric joint sealant, applied externally on the positive pressure side of the joint. These sealants perform adequately only for a limited period of time and often fail as the material becomes inelastic with age and lose their adhesive bond to the concrete. The breakdown and failure rate of external joint sealants is increased by exposure to UV rays, wet/dry cycles, and many other factors associated with exposure. Additionally, elastomeric sealants may only be applied after the concrete has fully cured, preventing backfilling, in below grade structures, from taking place for up to several weeks in some cases. Finally, when these sealants do fail on below grade structures where access to the positive pressure side is restricted, such as a basement, they cannot be replaced or resealed on the interior side because they do not stand up to negative side hydrostatic pressure.

The Synko-Flex Solution:

Synko-Flex preformed adhesive waterstop provides a simple long-term solution for effectively sealing pipes, sleeves, and collars which are embedded or cast into concrete walls or floor slabs. Synko-Flex bonds to steel, PVC, HDPE, and fiberglass surfaces while fusing to fresh concrete during the curing and hydration process. As the concrete cures, a permanently flexible, permanently watertight seal is developed between the Synko-Flex waterstop and the newly poured concrete.

Why is Synko-Flex better than externally applied elastomeric sealants? Synko-Flex is installed internally, confined within the concrete joint, enabling it to provide a positive side seal against internal hydrostatic pressures (such as a water tank or retention basin) as well as external hydrostatic pressures from ground water. Synko-Flex can even provide a positive side seal on penetrations through blind side walls. Being confined within the concrete, Synko-Flex is not directly exposed to UV rays and is protected from extreme temperatures, drying winds, and other climatic conditions, which tend to breakdown externally applied elastomeric sealants. Synko-Flex is bitumen based and hydrophobic in nature. It does not swell or shrink and is unaffected by wet/dry cycles. Synko-Flex requires no curing, therefore backfilling may take place immediately without having to wait for concrete or sealants to fully cure. Finally, Synko-Flex is inexpensive and may be easily installed by a single unskilled laborer.

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Installation Procedures

Pipe should be clean of oils, dirt, and loose debris prior to applying the Synko-Flex. A primer is not required provided the pipe is clean. The Synko-Flex should be positioned around the circumference of the pipe at center of the concrete wall or slab. Once the Synko-Flex is wrapped around the circumference of the pipe, it should overlap itself approximately 1 inch. The Synko-Flex should be firmly pressed against the pipe. Remove protective release paper and ensure that there are no gaps (especially at overlaps or splices). Make certain that the Synko-Flex is securely adhered to pipe before pouring concrete.

If you have any concerns or questions regarding the use of Synko-Flex on this type of application, please contact our customer service department at 1-800-231-4551 or 713-671-9502.