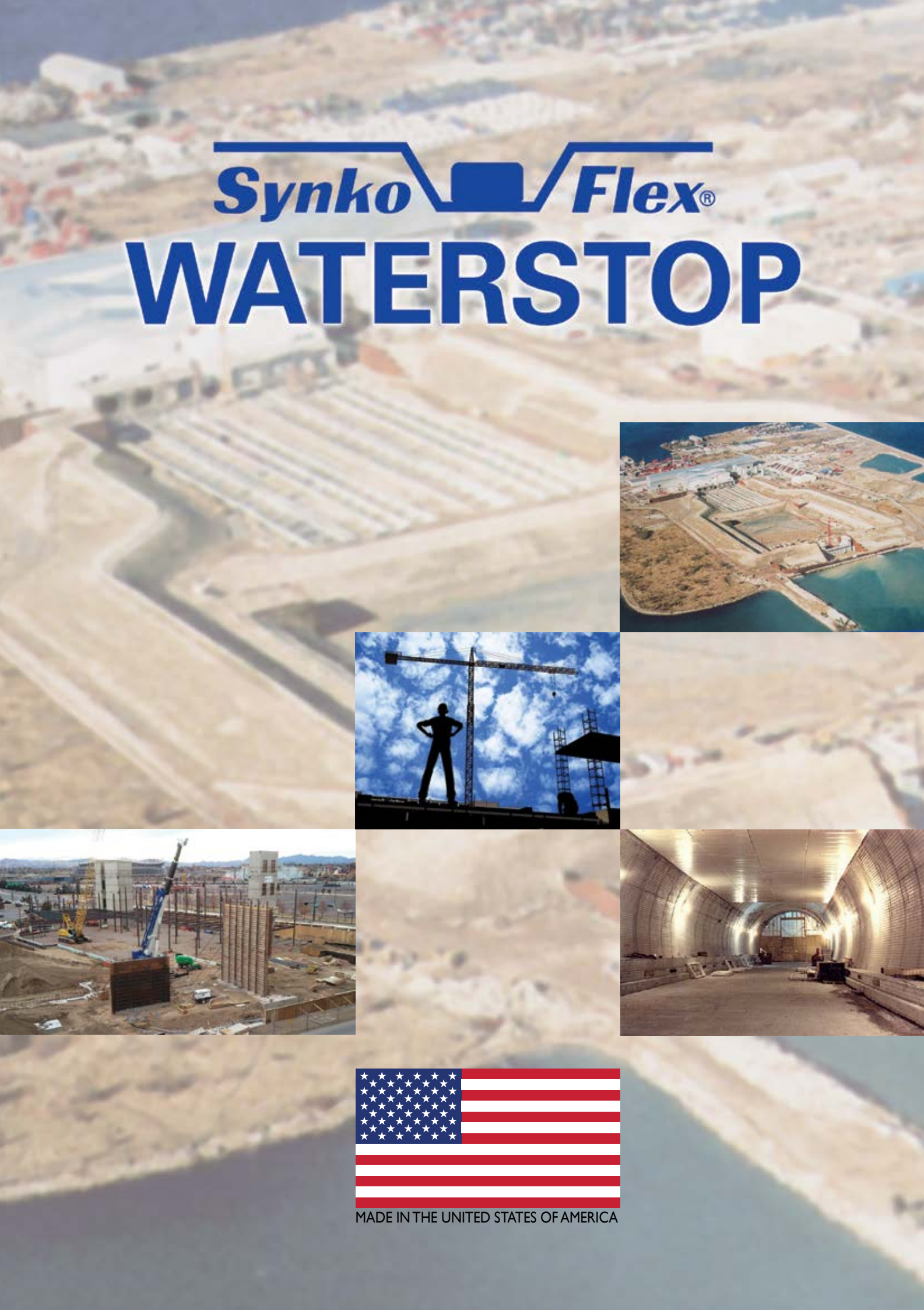


Synko Flex® WATERSTOP



MADE IN THE UNITED STATES OF AMERICA

Only **three things** matter when it comes to selecting **WATERSTOPS**

1. Effectiveness 2. Reliability 3. Ease of Installation

SYNKO-FLEX SF 302 Waterstop is a specially formulated non-swelling preformed adhesive waterstop that provides a lasting watertight bond to both fresh and cured concrete surfaces. It is a self sealing adhesive compound, extruded in a square cross section of 25 mm² and sandwiched between two sheets of quick release protective silicone paper wrapper.

It bonds to cured concrete surfaces and fuses with fresh concrete during hydration and the curing process to achieve a watertight seal within cold joints or construction joints in concrete structures.

USES

SYNKO-FLEX is designed to prevent leakages from construction joints in concrete structures in residential and commercial properties:

- Basement floor and wall
- Secondary containment structures
- Highway tunnels
- Mass Rapid Transport Tunnels
- Concrete lined storm drainage
- Irrigation channels
- Pedestrian underpass
- Swimming pools
- Water features
- Concrete Reservoirs
- Planter Boxes
- Concrete floor slabs
- Fish hatcheries
- Aquariums
- Water team parks

PHYSICAL PROPERTIES

Appearance	Black strip
Hydrocarbon Content	50% to 70 % (ASTM D4)
Volatile Matter	2% max (ASTM D6)
Specific Gravity	1.20 to 1.35 (ASTM D71)
Ductility	5.0 min (ASTM D113)
Softening Point	320°F (ASTM D 36)
Penetration	50 to 120 (ASTM D217)
Flash Point	600°F min (ASTM D92)
Flow Resistance	No Flow (Fed.Spec SSS-210)
Resistance to Hydrostatic Head	68 feet or 20.73 meters

SIZES

Length of Synko Flex	Standard 0.91 meters / 3 ft Length
Cross Section as extruded	25 mm x 25 mm
Cross Section as installed	5/8inches = 0.625" = (15.87 mm x 1.5 mm)



PACKING

In Cartons : containing 35 lengths of 0.91m strips.
Total length per carton = 32 meters.

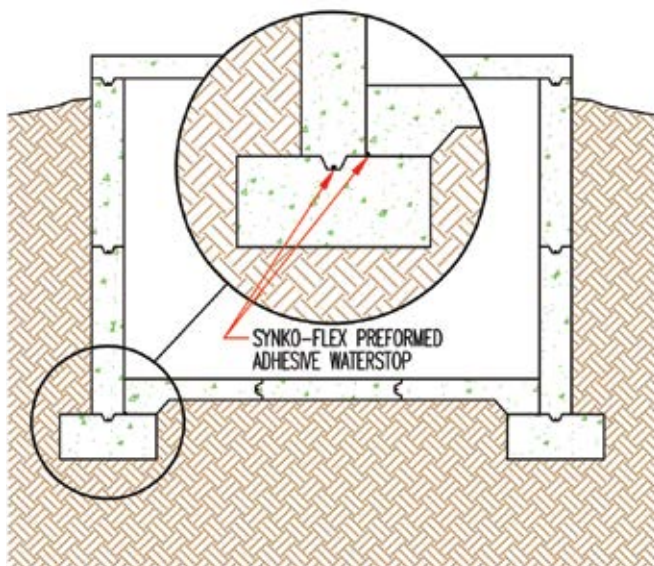
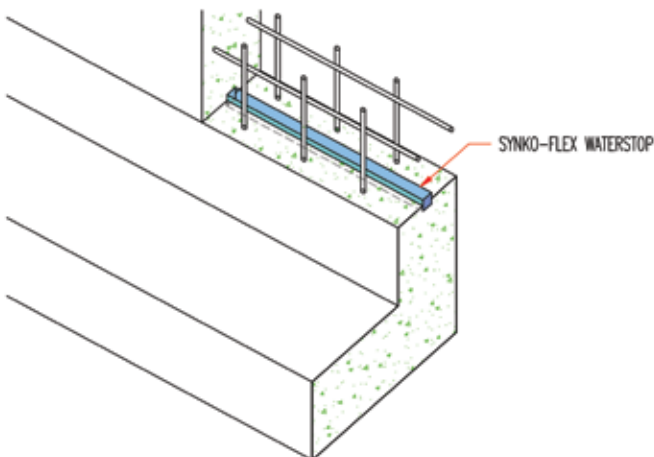
APPROVAL & CERTIFICATION

- Federal Specification SSS-210
- Certified ANSI/NSF 61 for use in potable water system

FEATURES

Easy to install

- Eliminates split forming
 - Eliminates the tying of profiles with wires to rebar for centralization as in PVC waterstops,
 - Eliminates the heat welding process for jointing as is required for PVC waterstops.
- Unaffected by rain or wet conditions during placement.
 - Excellent chemical resistance
 - Bonds to most substrates
 - Unaffected by cyclic wetting and drying
 - Never a risk of fracturing concrete.
 - Safe for use in potable water retaining structures.



SYNKO-FLEX unlike hydrophilic waterstops or commonly known as “swelling waterstops” works under compression and adhesion of a stable mass which have an infinite working life.

Hydrophilic or Swelling Waterstops was originally founded and manufactured in Japan. Initially rubber gaskets were used to seal formed joints or gaps between precast concrete tunnel segments. However, it was found that not all precast segments sealed with rubber gaskets are effectively free from leakages.

This is due to the limitation of extruded preformed gaskets which are unable to fulfil the inevitable minute enlargement of joints between segments during its placement.

Hence, there saw the need for a form of gasket type which could seal such incidental enlarged gaps efficiently. The technology of the eighties unfolded a polymer which could be adhered to rubber gaskets either to a face or embalmed in totality to provide a contingency seal in the event of leakages occurring along the line of a sealed joint section. This polymer had the possibilities of expansion (up to 10 times its volume) when it comes into contact with water, thus enabling it to exercise a bridging seal between the gasket and the precast element.

The founding of gaskets reinforced with hydrophilic rubber gave the tunnel lining industry a reprieve in its leakage problems. Despite this and up to this very day, it is still not a full prove system which will eradicate 99% of all leakages from joints in tunnel segments. Consultants have been allowing professional lining contractors the leeway for limited or acceptable water penetration through concrete segments since there is no good solution at hand.

The discovery and the ensuing usage of the polymer drew many other rubber compounders into this deemed niche tunnelling market with their products. This thus infuriated strong competition for market share and the resulting cut throat prices.

Before long, this base technology found its use in concrete structures. Hydrophilic waterstops was thus developed as a single line membrane for construction joints in concrete structures. Its fundament usage is to form a barrier in construction joints to prevent leakages from occurring through cold joints. Effectively, this displaced the use of Rubber and PVC waterstops which had served well the civil engineering industry for decades. Hydrophilic proliferation have caused enormous failures to concrete structures worldwide. It is the lack of understanding of manufacturers, suppliers and users which contributed to this foray of low cost innovation

POINTS TO PONDER WHEN SELECTING A WATERSTOP

- Hydrophilic Waterstops is an idea and a quick solution that would have revolutionised the construction industry if we could be sure of its service capabilities.
- Hydrophilic Waterstops is said to expand 10 times its original thickness when it comes into contact with water.
- On the surface, this statement is absolute true. But the underlying questions which are left unanswered are:
When Hydrophilic waterstops expands after coming into contact with wet concrete, this rapid expansion to ten times its original volume may cause blow out to occur all along the line of the construction joints in which they have been placed. The blow outs will cause deformation of wet concrete thus incurring honeycombs throughout the construction joint which in turn will allow water to meander through the construction joints.
- Dormant hydrophilic waterstops has a density and hardness. However, after being agitated with water it blossoms into a bloom 10 folds its original size. Would the new bloom be as tough as the original? Or would it have been transformed into a distorted weakened jelly like mass having little defending solids to shield the ingress of water?
- What happens to the hydrophilic waterstops after expansion?
Does the expanded mass shrink after time or when there is no presence of water?
- Can Hydrophilic repeat its expansion process after shrinkage?

With the glowing elements of doubt on Hydrophilic, would it not be prudent to halt its usage to prevent the perpetuation of leakages from construction joints in concrete structures?



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