

# MasterSeal<sup>®</sup> 940

## Flexible PVC Waterstops

### DESCRIPTION OF PRODUCT

**MasterSeal 940** are PVC waterstops used for the sealing expansion, contraction and construction joints. Various types of **MasterSeal 940** are available in different sizes depending on their intended use.

### PRIMARY USES

**MasterSeal 940** are specially designed for water retaining and water excluding structures, for it prevents the passage of water through expansion, contraction and construction joints in the following applications:-

- Primary and secondary containment facilities
- Dams, locks, canals, water reservoirs and aqueducts
- Sewage plants
- Water treatment plants
- Culverts and tunnels
- Storage tanks
- Retaining walls
- Bridge and deck abutments
- Foundation
- Slab on grade
- Roof slabs
- Parking garages

### ADVANTAGES

- Wide range of sizes to suit all construction requirements
- Quick and easy-tie to the rebar
- Labor-saving features
- Speeds installation
- Stays in place during concrete placement
- Cost effective

### PACKAGING

C15	30 Linear metres per roll
C20	30 Linear metres per roll
C20 T	30 Linear metres per roll
C20 M	30 Linear metres per roll
C24	30 Linear metres per roll
C24 T	30 Linear metres per roll
C24 M	30 Linear metres per roll
C32	15 Linear metres per roll
E20	15 Linear metres per roll
E24	15 Linear metres per roll
E32	15 Liner meters per roll

### STANDARDS & TECHNICAL PROPERTIES:

Type:	Polyvinyl Chloride
Service temperature:	-35°C to + 55°C
Welding temperature:	160 -180°C
Shore A Hardness:	>80
(ASTM D2240)	
Tensile strength:	>14N/mm <sup>2</sup>
(ASTM D638)	
Elongation at break:	>300%
(ASTM D638)	
Alkali resistance:	Weight change (+)
(CRD – C572-65)	0.0631%
	Hardness Change (-) 3.2 points
Accelerated Extraction:	Tensile strength
(CRD – C572-65)	16.9N/mm <sup>2</sup>
	Elongation 302%
Stiffness in flexural strength (CRD C 571)	4.42 Mpa
Tear Resistance (ASTM D624)	58.93 N/mm
Low Temperature Brittleness (-30°) C570	No crack observed
Water Absorption: (ASTM D570)	0.036%
Volatile loss: (ASTM D1203)	0.73%

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## DIMENSIONS:

Type	Width in cm (±1%)	Thickness (±10%)
C15	15	3
C15 T	15	1
C20	20	4
C20 T	20	1
C20 M	20	3
C24	24	4.5
C24 T	24	1
C24 M	24	3
C32	32	5
E20	20	5
E24	24	8
E24 M	24	5.5
E32	32	6

## DESIGN

PVC waterstop were originally designed as simple dumbbell profiles which worked on the valve sealing action of the opening joint putting the waterstop in tension, thus sealing the water path. Later designs included multi ribs and fins, in what is known as the tortuous path principle of an extended potential water track created by the ribs and fins.

**MasterSeal 940** combine all the accepted and proven principles of PVC waterstop in four valve and tortuous path design and grout check fins on all construction / contraction joint profiles.

## INSTALLATION PROCEDURE

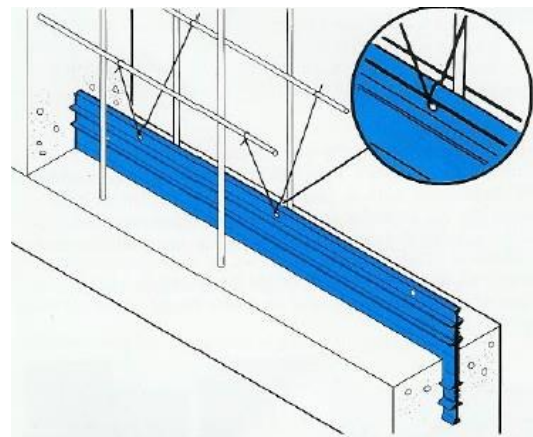
In concrete structures, Waterbars must be designed to seal the expansion, contraction and construction joints and to accommodate lateral and transversal movements that could cause the joint to open, close and misalign. **MasterSeal 940** should also be designed to accommodate the expected hydrostatic head within the structure and must be compatible with concrete forming methods and rebar placement design.

**MasterSeal 940** are made from virgin raw materials and are unaffected by the normal range of concrete or concrete additives.

**MasterSeal 940** will not discolour concrete and do not produce electrolytic action with adjacent metal structures or reinforcing bars.

Resistant to many water-borne chemicals,

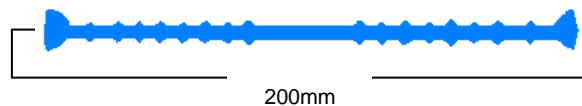
**MasterSeal 940** feature great inherent elasticity and abrasion resistance. **MasterSeal 940** is suitable for above or below-grade construction.



**MasterSeal 940** profiles must be installed using clips so they are securely held in the correct position whilst the concrete is poured. The concrete must be fully and properly compacted around the waterstops (the use of Master Builders Solutions's Rheodynamic admixtures to produce self compacting concrete is of great advantage to avoid voids or porous areas after concrete placing). Where reinforcement is present, an adequate clearance must be left between this and all Waterstops to permit proper compaction of the concrete.

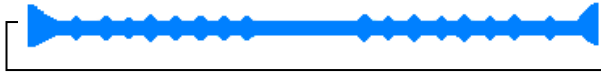


code	Web Thickness mm	Roll Length LM
C 15	3	30
C 15T	1	30



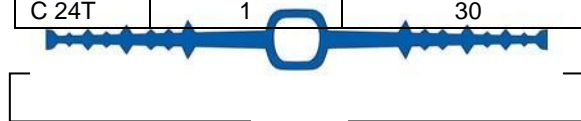
code	Web Thickness mm	Roll Length LM
C 20	3.5	30
C 20T	1	30

## MasterSeal<sup>®</sup> 940



240mm

code	Web Thickness mm	Roll Length LM
C 24	4.5	30
C 24M	3	30
C 24T	1	30



200m

code	Bulb Diameter	Web Thickness mm	Roll Length LM
E 20	13mm 19mm	4	15



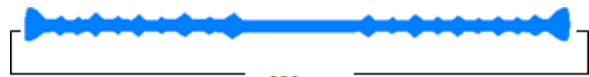
240mm

code	Bulb Diameter	Web Thickness mm	Roll Length LM
E 24	17mm 25mm	8	15
E 24M		5.5	15

### SELECTION CONSIDERATIONS

**MasterSeal 940** is designed for use within the performance parameters indicated under the headings Technical Data and Typical Properties. Centrally placed profiles are usually located midway in the slab or wall thickness across the joints in concrete structures. They will equally prevent the passage of water through the joint from either face. They are particularly suited to water retaining structures and in walls and slabs where pressure differential may occur such as in reservoir walls. They are equally appropriate for joints in suspended slabs, vertical wall joints and lift joints. The choice of width of profile is mainly

governed by slab all thickness, position of



320mm

code	Web Thickness mm	Roll Length LM
C 32	5	15

reinforcing steel and aggregate size. As a general rule, the 250mm width profiles are appropriate for slab/ wall thickness over 250mm, allowing good compaction and width of barrier to water penetration.

For concrete members less than 250 mm the use of a smaller profile approximating to the actual slab or wall thickness will be appropriate.

### CHEMICAL RESISTANCE PERMANENT RESISTANCE TO:

- Sea water
- Salt solutions
- Potable and sewage water

### TEMPORARY RESISTANCE TO:

- Alkalis
- Mineral oils
- Mineral acids

### STORAGE

Store under cover, out of direct sunlight and protect from extremes of temperature. For specific storage and disposal instructions, please contact Master Builders Solutions's Technical Services Department.

### STANDARDS

**MasterSeal 940** has been tested in accordance to ASTM D638/ASTM D412 and found to be complying with CRD-C 572-6

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### NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information, contact your local Master Builders Solutions

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

### QUALITY STATEMENT

All products manufactured by Master Builders Solutions Egypt, or imported from Master Builders Solutions affiliate companies world-wide, are manufactured to procedures certified to conform to the quality, environment, health & safety management systems described in the ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 standards.

\* Properties listed are based on laboratory controlled tests.

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MBS Construction Chemicals Egypt (S.A.E), Business Park A, Building A1, Cairo Festival City, Ring Road, New Cairo, Egypt

Hotline: 15560, Phone: +202 2128 7800, Fax: +202 2128 7801

Website: <https://www.master-builders-solutions.com/en-eg>



**15560**