

MasterLife WP 910

Hydroswelling waterbar for construction joints

Material Description

MasterLife WP 910 is a hydrophilic reswellable waterbar ready for installation to waterproof joints in concrete structures. The product is based on a special acrylic polymer technology that acts by swelling on contact with water, forming a secure seal and renders the joints waterproof.

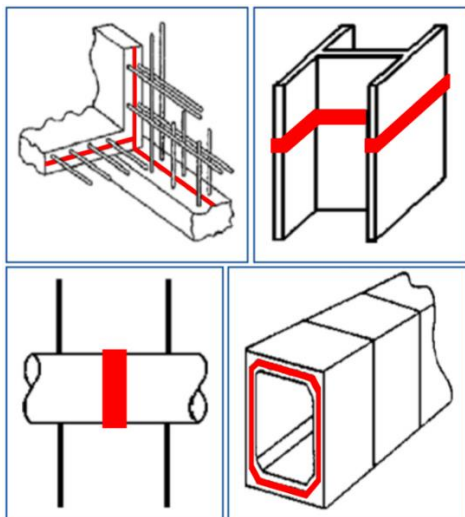
MasterLife WP 910 has a joint BBA approval with MasterLife WP 912 under certificate number 21/5889.

Areas of Application

MasterLife WP 910 is suitable for all construction joints and penetrations, through walls and floor slabs, that are subject to hydrostatic pressure on one, or both sides of the structure.

Application areas include:

- Abutments Construction joints.
- Pipes, steel, precast sections.
- Penetrations and connection joints.



Characteristics and Benefits

MasterLife WP 910 offers the following benefits:

- Swells in contact with water by up to 200% - prevents water ingress even when the joint width varies.
- Water molecules held by molecular attraction – captured water does not get transported through capillaries.
- The volume expansion seals the joint for ground water application.
- Resistant to chemicals, solvents, fuels and oils.
- Controlled swelling – which minimises the risk of damage to concrete.
- Does not form foam or gas with water – durable seal as no air bubbles can breakdown and allow leaks.
- Outstanding chemical resistance.
- Reversible swelling process.
- Resistant to micro-organisms formation.
- Can seal joints with up to 7 bar water pressure.

Application Procedure

Surface Preparation:

Substrate must be structurally sound, clean with the removal of water and all debris such as any contaminants including adhesives, diesel, dust, grease and oils before application.

Installation temperature range to apply MasterLife WP 910 to the substrate should be a minimum of 5°C and a maximum of 35°C.

Application:

It must be fully adhered to the prepared substrate using MasterLife WP 912. Other adhesive brands outside of the MasterLife product range have not been tested. Therefore, there is no test data to confirm they work or allow for the expansion of MasterLife WP 910 and may limit the effectiveness of MasterLife WP 910 and invalidate the manufacturer's warranty.

Please note that insufficient concrete cover, low density concrete or voids will prevent the MasterLife WP 910 waterbar achieving a correct seal and therefore could lead to the failure of the joint. To avoid this:

- MasterLife WP 910 waterbars should be placed in the centre of the concrete structure.

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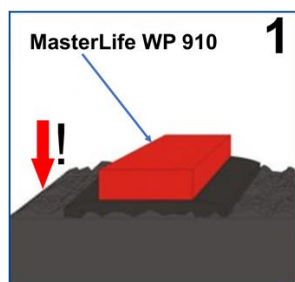
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- 80mm minimum cover both sides for reinforced concrete.
- 150mm minimum cover both sides for unreinforced concrete.

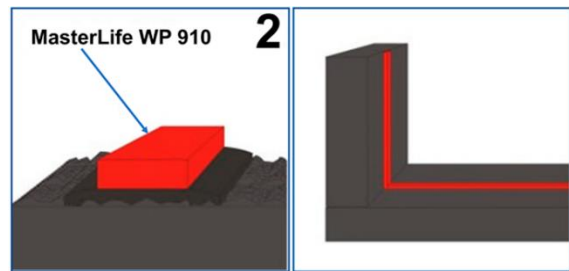
Installation:

Installation of MasterLife WP 912 mastic with MasterLife WP 910 waterbar:

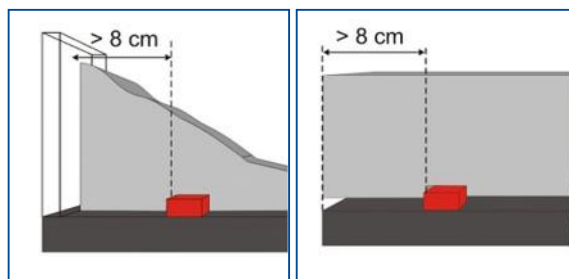
- Apply MasterLife WP 912 mastic in the centre of the joint having a bead of approximately 10mm wide.
- Allow up to 30 minutes before firmly pressing MasterLife WP 910 into the applied MasterLife WP 912.
- Ensure full and continuous contact between the MasterLife WP 912 mastic, the MasterLife WP 910 waterbar and the substrate is achieved.
- When the pouring height is above 500mm MasterLife WP 912 mastic must harden for a minimum of 12 hours before pouring concrete to avoid dislodging the MasterLife WP 910 waterbar(s).
- MasterLife WP 910 waterbar and MasterLife WP 912 mastic must be protected against water (for example, rain) until the concrete is poured.
- During pouring, compact the fresh concrete well around the MasterLife WP 910 waterbar to avoid honey combing.



For joint widths from 200mm up to 1000mm, place the MasterLife WP 910 waterbar along the centre of the joint. On wider joint surfaces (greater than 1000mm), two parallel MasterLife WP 910 waterbars may be laid for added protection.



It is important to leave the minimum coverage from both the edges of concrete to provide sufficient concrete cover to absorb the swelling stresses.



Packaging

MasterLife WP 910 is available in 20 x 10mm (± 5%) – 10 metre rolls, 3 rolls (30 linear metres) per carton.

Watch Points

Do not butt the joints of MasterLife WP 910. Always lay the waterbar with a 50mm overlap at the ends. Protect MasterLife WP 910 and the joints after installation from dirt, sand, stones, rain, water and other liquids.

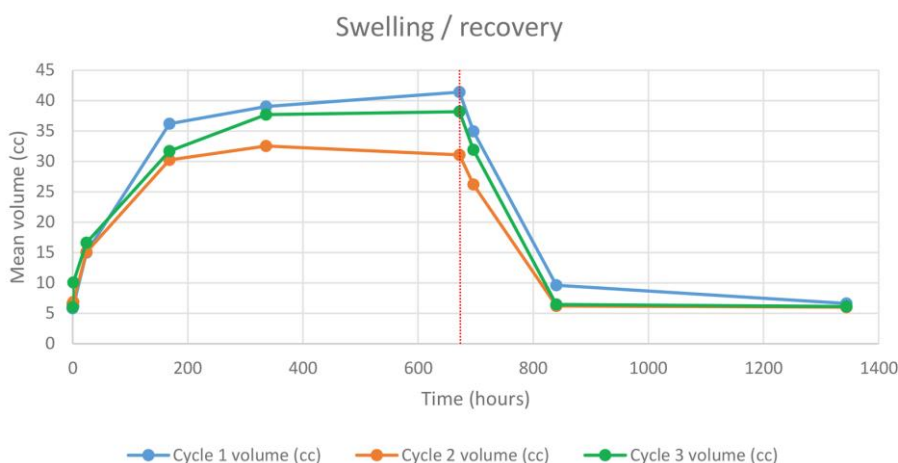
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Volume Expansion of MasterLife WP 910



Note: The dotted red line indicates the end of the swelling and the start of the recovery cycle.

Swelling	Cycle 1		Cycle 2		Cycle 3		Average change (%)
	Mean mass (cc)	Change (%)	Mean mass (cc)	Change (%)	Mean mass (cc)	Change (%)	
Initial	5.84	-	6.64	13.70	6.02	3.08	8.39
1 hour	6.18	5.82	6.88	17.81	10.07	72.43	32.02
1 day	14.99	156.68	15.07	158.05	16.63	184.76	166.50
7 day	36.19	519.69	30.23	417.64	31.69	442.64	459.99
14 day	39.06	568.84	32.54	457.19	37.71	545.72	523.92
28 day	41.41	609.08	31.07	432.02	38.19	553.94	531.68
Recovery	Cycle 1		Cycle 2		Cycle 3		Average change (%)
	Mean mass (cc)	Change (%)	Mean mass (cc)	Change (%)	Mean mass (cc)	Change (%)	
1 day	34.97	498.80	26.22	348.97	31.93	446.75	431.51
7 day	9.63	64.90	6.195	6.08	6.47	10.79	27.25
28 day	6.64	13.70	6.02	3.08	6.14	5.14	7.31

Note: Observations to the samples throughout testing confirms that there was no degradation of the material throughout the duration of the test.

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Product Data	
Appearance:	Red Solid Flexible Bar
Application temperature (substrate and material):	5°C to 35°C
Water pressure resistance (14 days):	7 Bar
Volume expansion:	See graph above
Logistics	
Shelf life:	24 months if stored according to manufacturer's instructions in unopened container.
Storage conditions:	MasterLife WP 910 must be stored in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, off the ground, out of direct sunlight and protect from extremes of temperature. Protect the materials from all sources of moisture. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Handling and transportation:	Refer to MasterLife WP 910 Safety Data Sheet
Disposal:	Refer to MasterLife WP 910 Safety Data Sheet

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Disclaimer

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.