

ADEKA ULTRASEAL[®] Waterstops by OCM, Inc. Chicago

ADEKA ULTRASEAL[®] MC-2005T Submittal

Includes following information:

- MC-2005T Description
- Data Sheet
- MC-2005T Advantages
- Disadvantages of PVC Waterstop
- General Strip Installation
- Concrete Coverage Requirements
- Hydrostatic Head Resistance
- Durability Information
- Testing (Based on MC-2010MN)
- MSDS Information
- P-201 Data Sheet

FOR MORE INFORMATION :

800.999.3959

www.adeka.com

info@adeka.com

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MC-2005T

GENERAL DESCRIPTION

MC-2005T is a pre-formed rubber strip with adhesive back

Size, 20mm X 5mm, (Approximately 3/4" X 1/4"). Typically used in piping penetrations, H-pile waterstops, and cold/construction joint applications. Packaged in 330 feet per case.

Adeka Ultra Seal MC-2005T is a chemically modified natural rubber product. During the manufacturing process a urethane polymer hydrophilic agent is chemically attached to the rubber. This permits the seal to undergo controlled expansion when in the presence of moisture. This expansion capability provides a "double locking" waterstop. One from rubbers's natural resilience and one from expansion pressure. Any void, within the limits of the product's volume expansion coefficient, will be filled by the expansion of the seal when it is hydrated. MC-2005T is manufactured with an adhesive backing for ease of installation.



MC-2005T

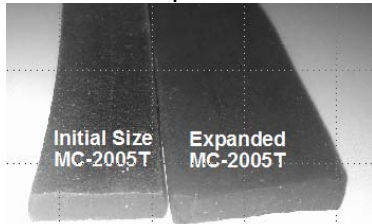
Manufactured by Adeka Corporation
Tokyo, Japan
Imported by OCM, Inc.
Chicago, IL.

www.adeka.com
800.999.3959
Info@adeka.com

FOR CONCRETE CONSTRUCTION/COLD JOINTS

GENERAL DESCRIPTION:

ADEKA ULTRASEAL® MC-2005T is a chemically modified natural rubber (non-vulcanized) product. The manufacturing process chemically bonds a hydrophilic agent to the rubber. This permits the seal to undergo controlled expansion when exposed to moisture (approximately 2 times by volume). This expansion capability provides a "double locking" waterstop i.e. one from rubber's natural resilience and one from expansion pressure generated when it is exposed to water.



Expansion occurs in three dimensions: width, height, and length and will follow the direction of least resistance. Therefore it is important to have waterstop completely encapsulated. MC-2005T requires a minimum of 4.0 ~ 5.0 inches of concrete coverage. See MC coverage chart for complete information. Visit www.adeka.com for coverage chart.

MC-2005T has excellent durability and resistance to chemical contaminants. It can perform in a wide range of solutions such as sea water or cement water. The material does not contain any toxic substance or heavy metals and is environmentally safe.

PRODUCT DESCRIPTION:	
SIZE:	20mm X 05mm (0.78" X 0.20")
PACKAGING:	100 meters (330 feet per case) 35 lbs per case
PROPERTIES:	
Hardness	A30
Tensile Strength	0.9 MPa
Elongation	560%
Volume % Change	120% (approximately 2 times)
Vulcanization	No
Specific Gravity	1.18
Tested by press sheet of MC compound	
Property values are representative values and not specification values	

BASIC USE:

Used in general below grade concrete joint work where hydrostatic head does not exceed 50 feet. MC-2005T may replace conventional waterstop in non-moving joints. Check with your local Adeka Representative for installation parameters.

NOTE: MC-2005T must be placed between two rows of rebar. The required concrete coverage varies from 4.0" ~ 5.0" depending on concrete strength. For example, if concrete psi is 4260 or greater the required concrete coverage is 4.0". If the concrete psi is 2550 or less, the required coverage is 5.0". For complete coverage information see MC Coverage Data Sheet or call 800.999.3959.

INSTALLATION:

ALL METHODS OF INSTALLATION REQUIRE A MINIMUM OF 4.0" ~ 5.0" COVERAGE SEE NOTE

METHOD 1: (Attaching waterstop to smooth concrete)

1. Surface of the concrete must be clean, dry and free from any loose debris. MC-2005T has adhesive back for easy installation.
2. Paint concrete with appropriate adhesive (3M-2141, Bostik 1142, Scotch Grip 1357, 3M 77 spray adhesives, 3M 92 spray adhesive or equal). Allow adhesive to become tacky. Remove release paper and firmly press MC-2005T onto adhesive.
3. Place concrete without displacing or disturbing the position of the waterstop.

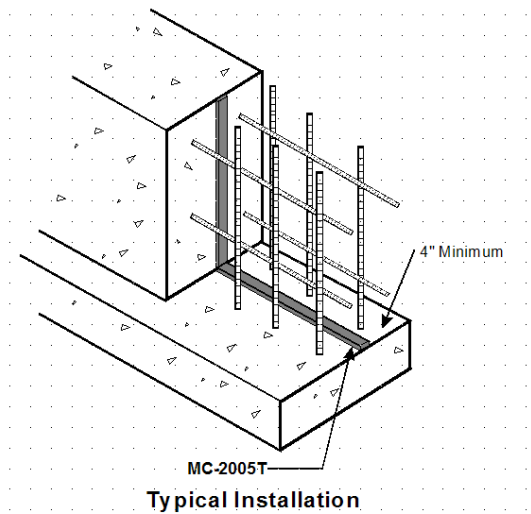
METHOD 2: (Attaching waterstop to rough concrete)

1. Surface of the concrete must be clean and free from any loose debris or standing water.
2. Apply bead of ADEKA ULTRASEAL® P-201. Use enough P-201 to fill any void between MC-2005T and the concrete surface)
3. Remove release paper and press MC-2005T into the P-201 while it is still in the paste state.
4. Use a wet tool or gloved finger to remove any excess P-201. Allow curing time (estimate 1~2 days) before placing concrete.
5. Place concrete without displacing or disturbing the position of the waterstop.



OR:

Attach with glue then fill in rough areas with ADEKA ULTRASEAL® P-201. Inspect to insure there are no voids or gaps between MC-2005T and concrete.



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ADEKA ULTRA SEAL MC-2005T

Call (800) 999-3959 for more information.

General Installation Procedures

For use in non-moving joints only. Hydrostatic head less than 50 feet.

ATTACHING MC-2005T TO CONCRETE

SMOOTH CONCRETE:

1. Surface of the concrete must be clean, dry and free from any loose debris. MC-2005T has adhesive back for easy installation.

2. Paint concrete with appropriate adhesive (3M-2141, Bostik 1142, Scotch Grip 1357, 3M 77 spray adhesives, 3M 92 spray adhesive or equal). Allow adhesive to become tacky. Remove release paper and firmly press MC-2005T onto adhesive.

3. Place concrete without displacing or disturbing the position of the waterstop.

ROUGH CONCRETE:

1. Surface of the concrete must be clean and free from any loose debris or standing water.

2. Apply bead of ADEKA ULTRASEAL® P-201. Use enough P-201 to fill any void between MC-2005T and the concrete surface)

3. Remove release paper and firmly press MC-2005T into the P-201 while it is still in the paste state.

4. Use a wet tool or gloved finger to remove any excess P-201. Allow curing time (estimate 1~2 days) before placing concrete.

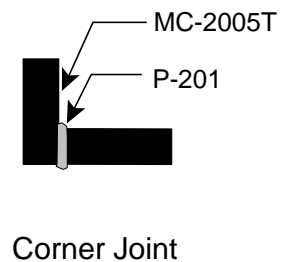
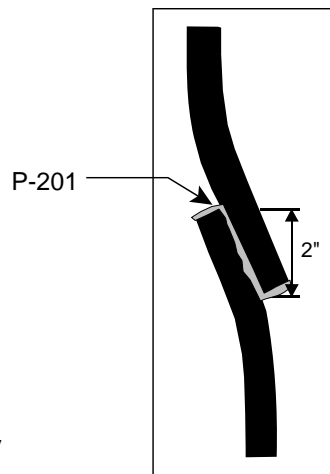
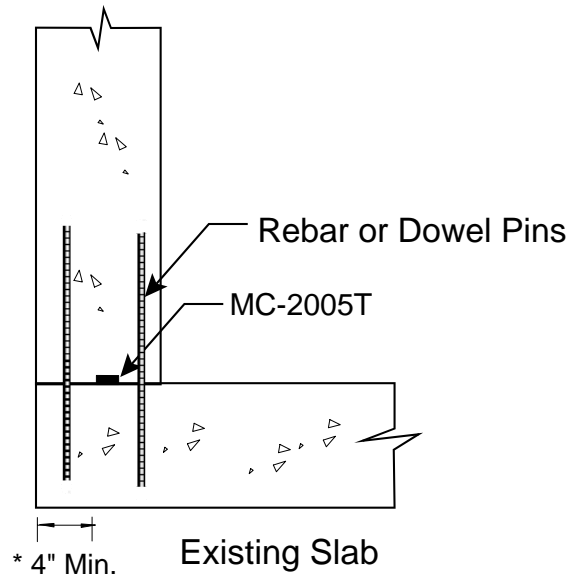
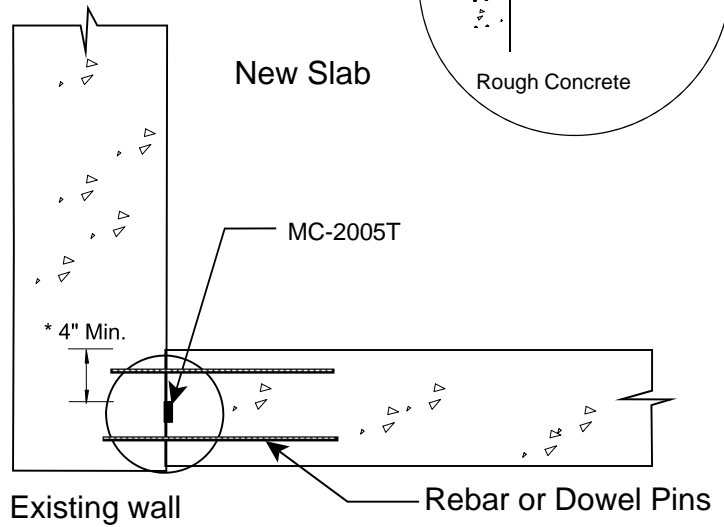
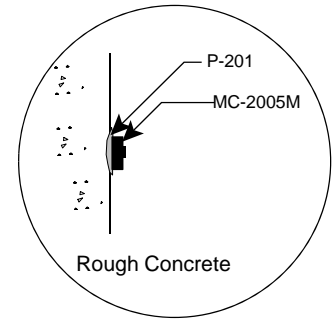
5. Place concrete without displacing or disturbing the position of the waterstop.

Conditions may warrant the use of a combination of methods.

Keep MC-2005T taut during attaching process. Do not allow any gap between the concrete and the MC-2005T.

*** IMPORTANT: Concrete coverage varies from 4.0"~5.0". See note on front page. Call 800.999.3959 or visit www.adeka.com for coverage chart or additional information.**

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Side by Side Lap Procedure

Not to Scale.



MC-2005T

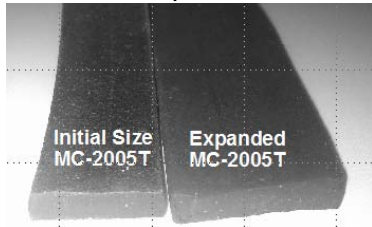
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GENERAL DESCRIPTION:

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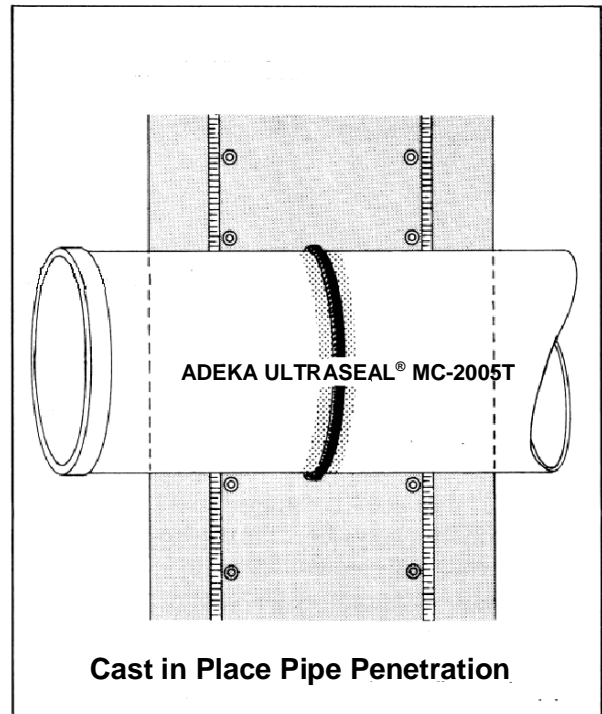
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MC-2005T has excellent durability and resistance to chemical contaminants. It can perform in a wide range of solutions such as sea water or cement water. The material does not contain any toxic substance or heavy metals and is environmentally safe.

BASIC USE:

Recommended for sealing pipe penetrations where pipe diameter does not exceed 24 inches. It can be used for new construction or for piping penetrations through existing concrete walls.

In some situations, MC-2005T may be used on pipe diameters exceeding 24 inches. Check with your local Adeka Representative for installation parameters.



INSTALLATION:

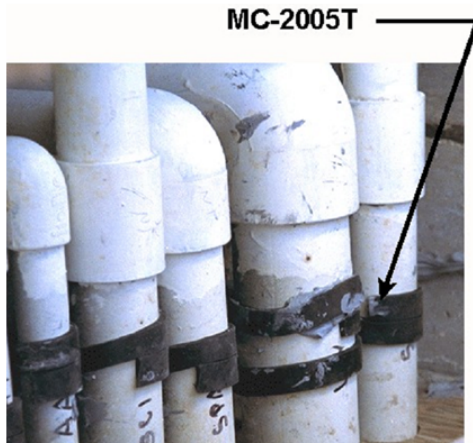
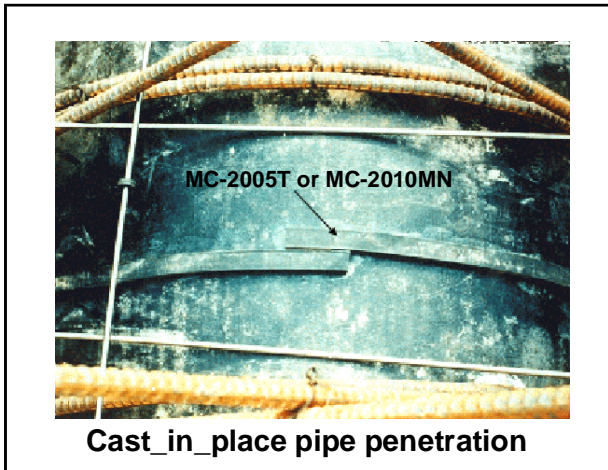
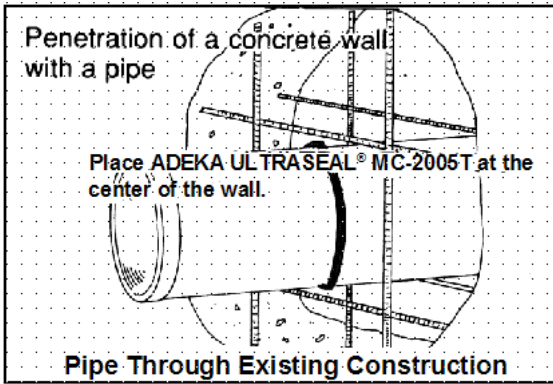
ALL METHODS OF INSTALLATION REQUIRE A MINIMUM OF 4.0" ~ 5.0" COVERAGE

1. Surface of the pipe must be clean, dry and free from any oils or loose debris. MC-2005T has adhesive back for easy installation.

2. Paint pipe with appropriate adhesive (3M-2141, Bostik 1142, Scotch Grip 1357, 3M 77 spray adhesives, 3M 92 spray adhesive or equal). Allow adhesive to become tacky. Remove release paper and firmly press MC-2005T onto adhesive.

3. Place concrete without displacing or disturbing the position of the waterstop.

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SMALL PIPE PENETRATIONS

ADEKA ULTRA SEAL® MC-2005T ADVANTAGES

*** Permanent Waterstopping Function**

Under long term compression conventional rubber seals become distorted. Their resilience is reduced and they lose their waterstopping efficiency. Water - swelling rubber seals eliminate these disadvantages by relying on a natural, permanent physical phenomenon; osmotic pressure. This produces a continuous expansion force that in turn, allows the sealing efficiency to remain unchanged. Due to these unique features, even if fluctuation of the size or position of the aperture occurs, it is sealed effectively.

*** Easier and More Economical to Install**

In order to get sufficient waterstopping performance by resilience, it would be necessary to, either increase the hardness of conventional rubber seals, or to choose greater dimensions or complicated forms. The result is a heavy, complicated seal that is difficult to handle and install. In contrast, water swelling rubber seals expand in water. This results in seals of smaller sizes and less hardness that do the same job. These seals are not only easier to install, but save valuable time and money.

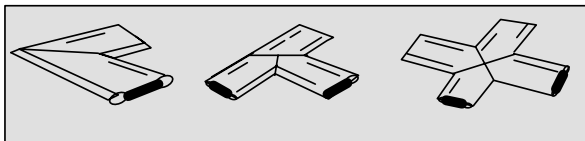
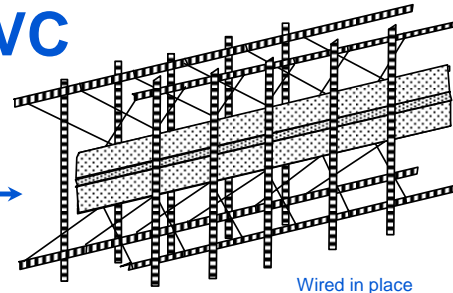
*** More Advanced - More Effective Performance**

This technically advanced product is a unique "DOUBLE LOCKING" waterstop. Due to its ability to stop water two ways (by compression and by water induced expansion pressure. MC-2005T can ensure greater protection against water intrusion than many other types of waterstops available today. Environmentally safe and durable, it retains its waterstopping properties for the life of the structure.

- * MC-2005T has an adhesive side to aid in installation*
- * Can be screwed or glued to concrete.*
- * Can replaces hard to install conventional PVC waterstops.*

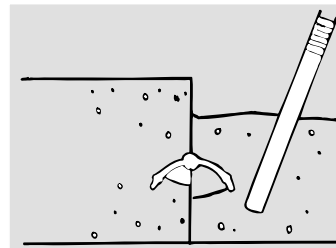
Disadvantages of PVC

Difficult to install →



← **Welded seams**

Chance of collapse →



PVC waterstops are difficult to install and can be detached or torn from the wire holders during concrete placement. PVC waterstops can be folded over or collapsed during concrete consolidation.

Field welded seams are the primary cause of leakage in PVC waterstop. Heat welding is difficult under certain environmental conditions (wet / cold). Some PVC type waterstops release harmful chemicals during the welding process. PVC usage has declined in some countries because of the harmful chemicals released during field welding.

EASY INSTALLATION OF MC-2010MN WILL REDUCE THE CHANCE OF INSTALLATION ERROR AND FAILURE.

IDEAL INSTALLATION OF AUS STRIP PRODUCTS MC / KBA / KM

The hydrophilic strip must have a tight interface with the concrete in all areas.

If there are gaps between the concrete and the AUS product or “looseness” between nails, concrete fines could be forced between the strip and the concrete. This may introduce a potential waterpath. Note Figure # 1.



Figure # 1

Prevent this possibility by using Adeka Ultra Seal P-201 or glue even when fastening with screws or nails (see data sheet for recommended glues). We highly recommend using P-201 under the strip products. Using P-201 eliminates the subjective determination of rough or smooth concrete.

Consider concrete rough when a profile is present that allows **any** concrete fines to penetrate between the strip material and the concrete. This includes holidays, bugholes etc.

Concrete is considered smooth when there is intimate contact between the strip material and the concrete over the entire area of the strip material.

INSTALLING ADEKA ULTRA SEAL STRIPS with ADEKA ULTRA SEAL P-201

Cut the nozzle at the very tip. If the concrete is rough, cut a larger opening. On smooth concrete (no profile) apply approximately 1/16" X 3/8" bead of P-201. One cartridge will cover approximately 40 feet at that bead size. Rough concrete will require more. There must be enough P-201 to fill any voids or profile when the strip is pressed into the P-201. Firmly press the strip into the P-201 while it is still in the paste state.



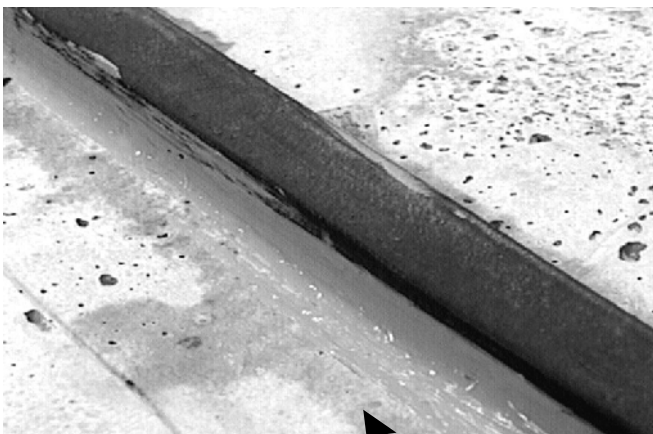
Cut the nozzle at the tip



1/16" X 3/8" bead of P-201



Press the strip firmly into the P-201-note "bubble" of P-201 on both sides.



Complete perfect waterstop seal by removing excess P-201.

ADEKA ULTRA SEAL MC- PRODUCT

MINIMUM CONCRETE COVERAGE REQUIREMENTS

MUST BE PLACED BETWEEN TWO ROWS OF REBAR
6.5' MINIMUM WALL HEIGHT

Concrete Strength	180 (kgf/cm ²) 2556 (psi)	210 (kgf/cm ²) 2982 (psi)	240 (kgf/cm ²) 3408 (psi)	270 (kgf/cm ²) 3834 (psi)	300 (kgf/cm ²) 4260 (psi)
Minimum Concrete Coverage	12 cm 5 (inch)	11 (cm) 4 (inch)	11 (cm) 4 (inch)	10 (cm) 4 (inch)	10 (cm) 4 (inch)

1 (kgf/cm²) = 14.2 (psi) 1 (cm) = 0.3937 (inch)

If construction conditions do not meet above requirements, consider
changing to
Adeka Ultra Seal KBA-1510FP

Call 800.999.3959 for additional information

Required concrete coverage

From leading edge of strip waterstop to face of concrete

ADK continues to update their testing methods and procedures in order to insure the best product choice and correct installation guidelines for each project.

The following tables show concrete coverage requirements based on ADK's latest information. Note the KM-3030M coverage. This coverage amount is required when using KM-3030M or KM-4040M in a construction or cold joint. **KM-3030M can be used in a one foot thick wall with a ½" expansion joint as shown in the KM-3030M data sheet.**

Minimum Concrete Coverage in cm

strength of concrete	(psi)	2600	3000	3400	3800	4300
	(kgf/cm ²)	180	210	240	270	300
MC-2010MN & 2005	(cm)	12	11	11	10	10
KM-2020M	(cm)	29	27	26	25	24
KM-3030M	(cm)	43	41	39	37	36
KM-4040M	(cm)	57	54	51	50	47
KBA-1510FP	(cm)	5	5	5	3	3

Minimum Concrete Coverage in Inches

strength of concrete	(psi)	2600	3000	3400	3800	4300
	(kgf/cm ²)	180	210	240	270	300
MC-2010MN & 2005	(inch)	5	4	4	4	4
KM-2020M	(inch)	12	11	11	10	10
KM-3030M	(inch)	17	16	16	15	14
KM-4040M	(inch)	23	22	21	20	19
KBA-1510FP	(inch)	2	2	2	1	1

Call 800.999.3959 for more information

ADEKA ULTRA SEAL HYDROSTATIC HEAD RESISTANCE

	Hydrostatic Head	psi	MPa
MC2010MN	150 ft	72.5	0.50
MC2005M	50 ft	21.8	0.15
MC2005T	50 ft	21.8	0.15
KBA	20 ft	8.7	0.06
KM3030M	100 ft	43.5	0.30
P-201 (3/16x3/4)	50 ft	21.8	0.15
P-201 (3/8 x3/4)	150 ft	72.5	0.50

NOTE - P-201 HYDROSTATIC HEAD RESISTANCE DEPENDS ON BEAD SIZE

Durability data of ADEKA ULTRASEAL MC-series

1. Purpose,

There is a difficulty to predict durability of materials. Because, it need to consider many condition to estimate its durability. But we have to know materials durability to use it. Degradation of materials is one of chemical reaction, so we can know its durability from heat degradation. Generally, Arrhenius's method is used to estimate durability of materials.

Relationship between speed of chemical reaction and temperature is shown as follows by S. A. Arrhenius in 1889.

$$K = A \exp (-E_a/RT) \text{ -----(1)}$$

K : velocity constant

R : gas constant

T : absolute temperature

A : frequency factor

E_a : activation energy

To estimate materials durability, expression (1) leads expression (2).

$$\ln (t) = E_a/(RT) + \text{const.} \text{ -----(2)}$$

t : hours

Expression (2) means, logarithm of time "t" proportional to (1/T).

So, promoted test results at high temperature can estimate life of materials at normal condition. We choose half-life of material's elongation data to estimate durability of ADEKA ULTRASEAL MC-series.

2. Promoted degradation test

Testing condition is shown at table-1.

Table-1) Testing condition

Test item	Elongation
Temperature	50,70 and 90 degrees C
Predict method	Half-life of elongation
Testing method	JIS K 6251

Result

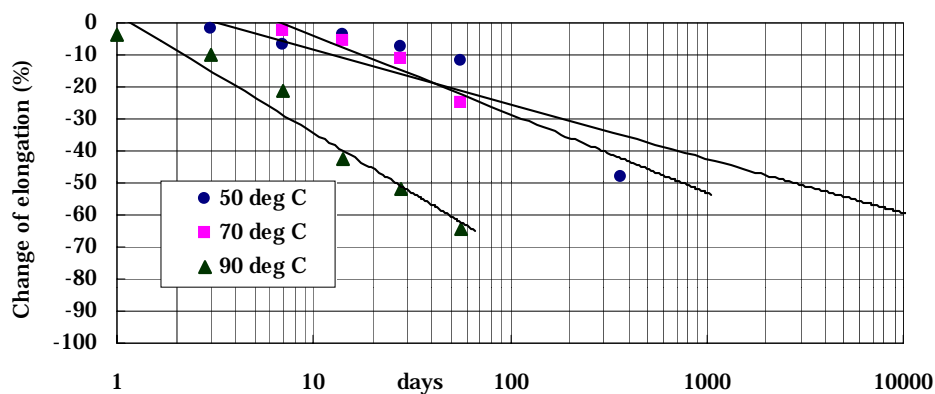


Fig.1) Relationship between change of elongation and days

We can read half-life of elongation from Fig.1) as follows, Expression (3) - (5) show approximate expression of change of elongation and days data.

$$y = -7.3658 \ln (x) + 8.4807 \text{ -----(3)}$$

$$y = -10.674 \ln (x) + 20.74 \text{ -----(4)}$$

$$y = -16.119 \ln (x) + 2.7283 \text{ -----(5)}$$

y : change of elongation

x : days

Temperature (Deg C)/(Deg F)/(K)	Days	t (hrs)
90 / 194 / 363	26	632
70 / 158 / 343	755	18,131
50 / 122 / 323	2,806	67,342

3. Predict of material's life

Expression (2) and Table-1 show relationship of ln (t) and 1/T as follows.

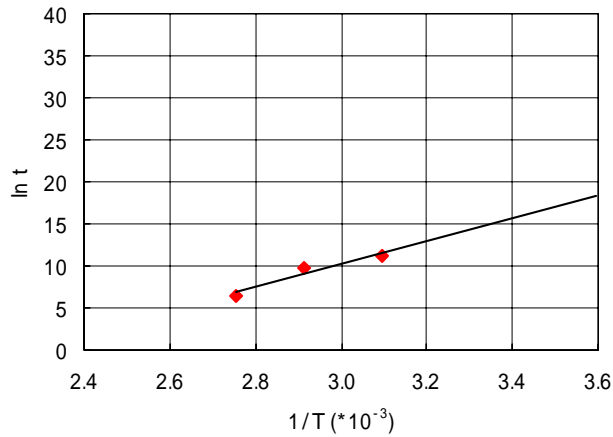


Fig.2) Relationship between ln (t) and (1/T)

$$\ln (t) = 13.552 * (1/T) * 10^3 - 30.476 \text{ -----(6)}$$

Expression (6) leads durability of ADEKA ULTRASEAL MC-series at 20 – 30 degrees C as follows.

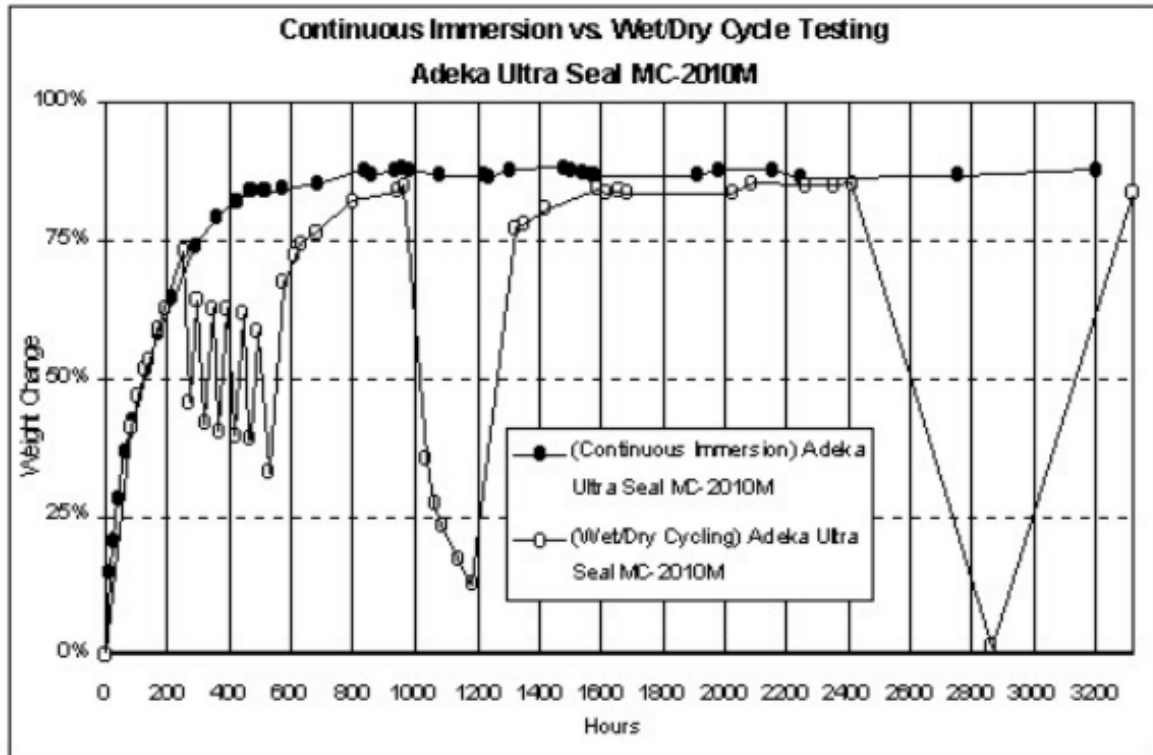
Table-2. Durability of ADEKA ULTRASEAL MC-series

Temperature (Deg C)/(Deg F)/(K)	Predicted Durability (years)
20 / 68 / 293	811
25 / 77 / 298	373
30 / 86 / 303	176

This predict method results estimate degradation time at controlled conditions, so these data does not estimate durability at actual condition. Materials are using in many kinds of conditions, so its durability are different in many cases. But this durability data is useful to know ADEKA ULTRASEAL MC-series has good degradation resist ability.

(End)

Adeka Ultra Seal Waterstops by OCM, Inc, Chicago



Repeated wet/dry cycles do not diminish hydrophilic capabilities

The graph line with the ● markers shows the expansion when the product is under continuous immersion. Each ● indicates a weighing point.

The graph line with the ○ marker shows the expansion when dehydrated and rehydrated. Each ○ indicates a weighing point.

A comparison of the two graph lines shows the product does not lose its hydrophilic properties when in a wet / dry condition. The hydrophilic agent is not flushed out during wet/dry cycles. Particle hydrophilic agents are often washed out during repeated wet/dry cycles. . .

MC-2010MN / MC-2005T TEST RESULTS WILL BE SIMILAR

ADEKA MC-2010MN - BENTONITE PRODUCT (RX) COMPARISON

	MC-2010MN		BENTONITE (RX)
Composition	Chemically modified natural rubber		Bentonite/butyl rubber mixture
Function	Expansion to prevent water intrusion		Expansion to prevent water intrusion
Hydrophilic Agent	Urethane polymer molecularly attached to the rubber. Cannot be washed out		Bentonite clay particles mixed with butyl rubber. Can be washed out
Attachment Procedures	Fasten with glue, nail, screws on wet, damp, green, or dry concrete. Method of attachment determined by conditions (wet or dry)		Adhesive must be used. Cannot be mechanically fastened. Must be placed on dry concrete
Environmental Conditions	Will withstand several instances of environmental wetting without significant expansion. (Can be immersed for up to 3 days and still place concrete) Repeated wet/dry will not damage the function of the product.		Must be protected from premature exposure to water. Premature water exposure will require replacing the product.



PURPOSE

Test the performance capabilities between Adeka Ultra Seal MC-2010M and bentonite based products under different conditions (increasing pressure and joint opening).

COMMENTS

Adeka Ultra Seal MC-2010M is manufactured from natural rubber with the addition of a liquid hydrophilic urethane pre polymer. The hydrophilic agent becomes an integral part of the product. It cannot be easily removed. Bentonite based products are a mixture of bentonite and other substances such as butyl rubber. The product may disintegrate when in contact with water for a period of time. This can lead to a failure of the waterstop. Cannot expect long term durability.

TEST SAMPLE

1. Adeka Ultra Seal MC-2010M (size: 20mm X 10mm embedded stainless steel mesh)
2. Bentonite based products (size: 20mm X 10mm - purchased in USA)

TEST METHOD

Cast MC-2010M and bentonite based products into concrete test blocks. Introduce water to the joints for 300 days (@ 8 kgf/cm² - 113.6 psi - 262 ft. hd). See the attached chart. After 300 days, open the joint 5mm (0.197 inches) and increase hydrostatic head to compare waterstopping performance. See attached chart.

COMMENTS ON TEST RESULT

While the joint was stable with no movement (the first 300 days), both products performed well. No leaks at 8 kgf/cm² - 113.6 psi - 262 ft. hd. The joints leaked when they were opened 5mm and pressure applied up to 2 kgf/cm² - 28.4 psi. **HOWEVER THE JOINT WITH THE MC-2010M STOPPED LEAKING AFTER A PERIOD OF TIME. THE BENTONITE SEALED JOINT DID NOT STOP LEAKING.** Note the results on the chart. The bentonite product failed because of the breakdown in the product's structure. The product could not recover its waterstopping function. Note attached chart.

The test proves the superiority of Adeka Ultra Seal MC-2010M as compared to bentonite products.

Call your local Adeka Ultra Seal Representative or (800) 999-3959 for more information.



TEST RESULT

Days		MC-2010M	Bentonite Based
300	0mm opening 8 kgf/cm ²	No leak	No leak
	5mm opening 2 kgf/cm ²	Leak	Leak
314	2 kgf/cm ²	NO Leak	Leak
353	2 kgf/cm ²	NO Leak	Leak
	2 kgf/cm ²	NO Leak	Leak
	3 kgf/cm ²	NO Leak	Leak
	4 kgf/cm ²	NO Leak	Leak
	5 kgf/cm ²	NO Leak	Leak
456	6 kgf/cm ²	NO Leak	Leak
	7 kgf/cm ²	NO Leak	Leak
	8 kgf/cm ²	NO Leak	Leak
	9 kgf/cm ²	NO Leak	Leak
	10 kgf/cm ²	NO Leak	Leak

Conversion Factors

kgf/cm ²	psi	Ft lbs H ₂ O
2	28.44	65.6
3	42.66	98.4
4	56.88	131.2
5	71.11	164.0
6	85.32	196.8
7	99.54	229.6
8	113.76	262.4
9	127.98	295.2
10	142.20	328.0

Comparison table ADEKA ULTRA SEALS & Others

	Waterswelling rubber, ADEKA ULTRA SEAL products	Bentonite type B	Bentonite type C
Main Component	Natural rubber, waterswelling polyurethane	Bentonite, oil	Bentonite, Butyl rubber
Water swelling	Yes	Yes	Yes
Tensile strength when swelling	Yes(maintain its structure)	No (break down its structure)	No (break down its structure)
Mechanism	Stop the water by expansion pressure	Stop the water by filling the gap with the collapsed structure	Stop the water by filling the gap with the collapsed structure
unit length	25m/case	1m (plural butt joints may cause the water path)	5m(plural butt joints may cause the water path)
Application	Applicable on both dry, wet surface.	Applicable wet surface only.	Applicable on both dry, wet surface.
Rain	Not affected by the sudden rain. The shape will return to original when it is dry condition.	Rain may increase the break down the structure. The shape will not return to the original.	Rain may increase the break down the structure. The shape will not return to the original.
Pressure	More than 5kgf/cm ²	Leakage may occur even in lower pressure.	Leakage may occur even in lower pressure.
Opening	Joint opening is not affected the performance	Lower performance is anticipated in case of opening.	Lower performance is anticipated in case of opening.
Durability	Long durability maintaining the swelling	Long term durability can not be expected due to breaking down its structure.	Long term durability can not be expected due to breaking down its structure.

MASS CHANGE

A. Purpose: To determine the change in mass.

B. Materials Tested: Adeka Ultraseal MC-2010M.

C: Test Method: The sample was dried to eliminated any initial moisture. The sample was dried for 25 days at 50° C. RESULTS IN TABLE 2. The sample was then weighed and then immersed in water for 38 days. After immersion the sample was removed and dried for 23 days at 50° C. RESULTS IN TABLE 3.

	0 DAYS		25 DAYS	
MC-2010M	WT (g)	12.581	WT (g)	12.296
	%	0.0%	%	1.2%

TABLE 2

		0 DAYS	38 DAYS (WET)	23 DAYS (DRY)
MC-2010M	WT(g)	WT (g)	11.565	11.262
	0%	0%	87.6	2.6

TABLE 3

MASS CHANGE = (WT% CHANGE (23 DAY DRYING TIME AFTER IMMERSION) MINUS (ORIGINAL WT% CHANGE BEFORE IMMERSION)). RESULTS IN TABLE 4.

	Mass Change	Method
MC-2010M	1.4 wt%	2.6 wt% - 1.2 wt%

TABLE 4

Mass Change of MC-2010M = 1.4% wt%.

The mass change difference indicates very little loss of hydrophilic agent in the MC-2010M.



P-201

Manufactured by Adeka Corporation
Tokyo, Japan
Imported by OCM, Inc.
Chicago, IL.

www.adeka.com

800.999.3959

Info@adeka.com

PRODUCT DESCRIPTION:

Single component hydrophilic grey paste

PACKAGING INFORMATION:

24 Cartridges per case

320 ml (10.8 oz) per cartridge

EXPANSION INFORMATION BY VOLUME:

Approximately 100% (2 times by volume)

HYDROPHILIC WATERSTOP IN A CARTRIDGE

One of the most versatile Adeka products

GENERAL DESCRIPTION

ADEKA ULTRASEAL® P-201 is a water-swelling, single component, elastic sealant. P-201 is packaged in 320 ml (10.8 oz) cartridges or in 3.17 gallon bulk pails.

WATERSTOP FOR:

- * Cold/construction/control joints
- * Expanded metal forms
- * Piping penetrations
- * Crack / joint repair
- * Sheet pile interlock sealant
- * Precast segment sealant

Utility vaults
Manholes
Tunnels
Riser rings



P-201 is used as a waterstop in new construction and in repair applications. It can be placed on damp or uneven surfaces and functions in a wide range of temperatures and ground water conditions water.

TYPICAL USES:

P-201 will expand up to 2 times (100%) **by volume** in the presence of water. It will expand in the direction of least resistance. When expansion is inhibited, the product will produce expansion pressure against the resisting substance. This expansion pressure will effectively seal off water penetration. The amount of concrete coverage required depends on bead size. The coverage may range from 2" (¼" bead) to 4" inside a double mat of rebar (½" bead). Bead size also determines hydrostatic head resistance

P-201 (3/16x3/4)	50 ft	21.8	0.15
P-201 (3/8 x3/4)	150 ft	72.5	0.50

STANDALONE WATERSTOP

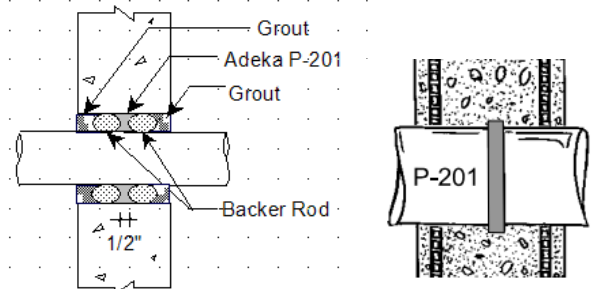
Use in below grade cast-in-place concrete joints. P-201 can replace conventional waterstop in non-moving joints.

CAVEAT: P-201 must cure before placing second concrete. Curing time varies by bead size, temperature and humidity. Place concrete without displacing or deforming the bead of P-201.



PIPE PENETRATIONS

ADEKA ULTRASEAL® P-201 is an excellent product to seal CIP pipe penetrations or in "block out" pipe penetrations. Check www.adeka.com for details concerning annular spaces greater than 2".



Less than 2.0" annular space

PIPE PENETRATION WITH SMALL ANNULAR SPACE

EXPANDED METAL WATERSTOP

Use to waterproof expanded metal (stay in place) forms. Allow curing time before placing second concrete.



Stay in place expanded metal forms

PRECAST SEGMENTS

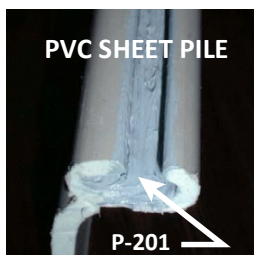
Excellent product to seal joints between precast segments. Use on box culverts, manhole, utility vaults, riser rings and many other precast units. Apply bead of P-201 and place second segment before P-201 cures.



Precast Box Culverts

SEALING SHEET PILE INTERLOCKS

Use P-201 to seal PVC and AZ sheet pile interlocks. AZ sheet piles are treated with P-201 "Roxan System".



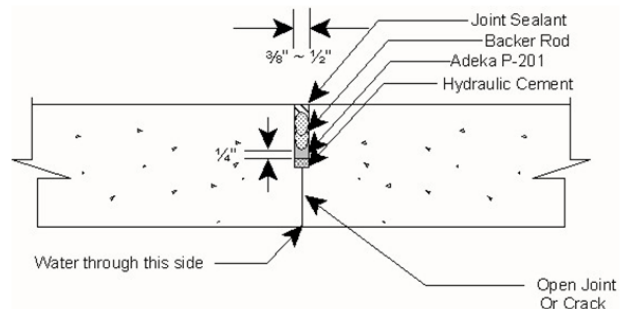
OTHER USES FOR P-201



Use to fill rough areas when using Adeka strip products. Apply on PVC waterstop weld seams.



Waterstop H-Piles



Waterstop Open Joints / Cracks

NOTE: The information contained herein is based on our present state of knowledge and is intended to provide general notes on Adeka Waterstops and their uses. Any recommendations or suggestions, which may be made, are without guarantee, since the conditions of use are beyond our control. Furthermore, nothing contained in this publication shall be construed as a recommendation for any use that may infringe patent rights. Readers are cautioned to satisfy themselves as to the suitability of such goods for the purposes intended prior to use

VISIT WWW.ADEKA.COM FOR MORE INFORMATION OR CALL 800.999.3959