

Hydrostatic Head Test of Adeka Ultra Seal for Control Joint.

ASAHI DENKA KOGYO K.K.
CIVIL ENGINEERING & CONSTRUCTION MATERIAL LAB.

PURPOSE

This test is to observe how ADEKA ULTRA SEAL can resist under the high water presser.

SAMPLE

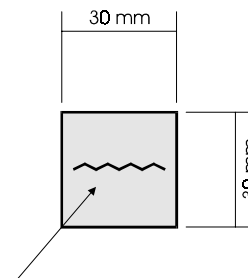
ADEKA ULTRA SEAL KM-3030M

Pre-formed rubber strip.

Width=30mm,height=30mm,(Approximately,1.2"X1.2").

Stainless steel wire mesh to control and focus expansion.

Three times expansion by volume.



TEST METHOD

Prepare Test Block

- 1) Make a first concrete with preformed keyway (width=30mm,depth=15mm) on its surface, and leave 2 weeks until it is cured.
- 2) Set a Waterstop on a surface of first concrete with adhesive. And fill ADEKA ULTRASEAL P-201 for space between concrete surface and KM-3030M water stop.
- 3) 2 weeks later, make a second concrete on first one and leave additional 2 weeks.
- 4) After additional 2 weeks, start pressuring.

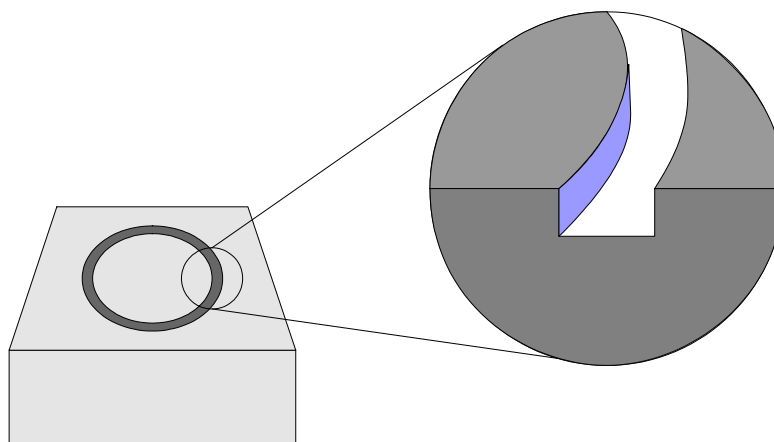
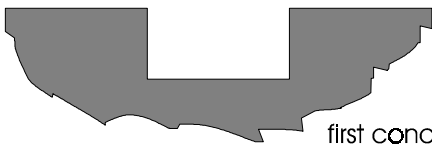
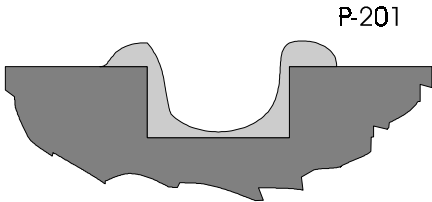


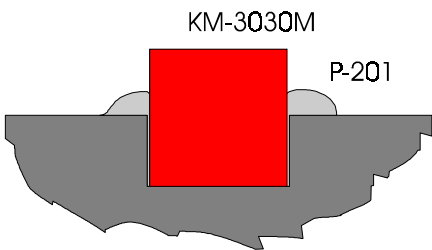
Fig.1 First Concrete with preformed key way (width = 30 mm depth = 15 mm)



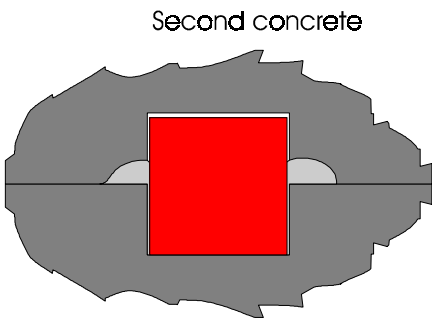
First concrete with preformed keyway
(width=30mm,depth=15mm)



Before installation of KM-3030M, Use P-201 on surface of keyway on the first concrete to avoid leakage between first concrete and KM-3030M.



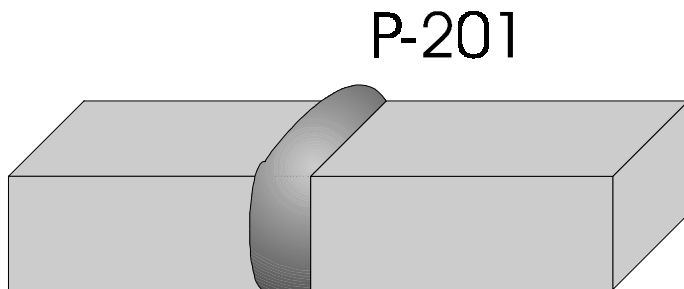
Set up KM-3030M on keyway, before P-201 is cured.



Make second concrete on first one.

Fig.2 Installation of KM-3030M on the key way

Joint of KM-3030M



At the end of KM-3030M, to avoid a leakage from joint surface, butt each end and apply with P-201.

Fig.3 Joint of KM-3030M

Pressuring test

- 1) Make 6.0mm opening between first concrete and second one.
- 2) Keep every 3min. for every 1kgf/cm^2 (14.2psi) increase.
- 3) When no leak is confirmed, increase additional 1kgf/cm^2 again.
- 4) When leakage is observed, stop pressuring and leave 1 week and then, increase 1kgf/cm^2 .
- 5) Repeat 1) ~ 4) and observe hydrostatic head at 6.0mm, 15kgf/cm^2 (213.0psi).

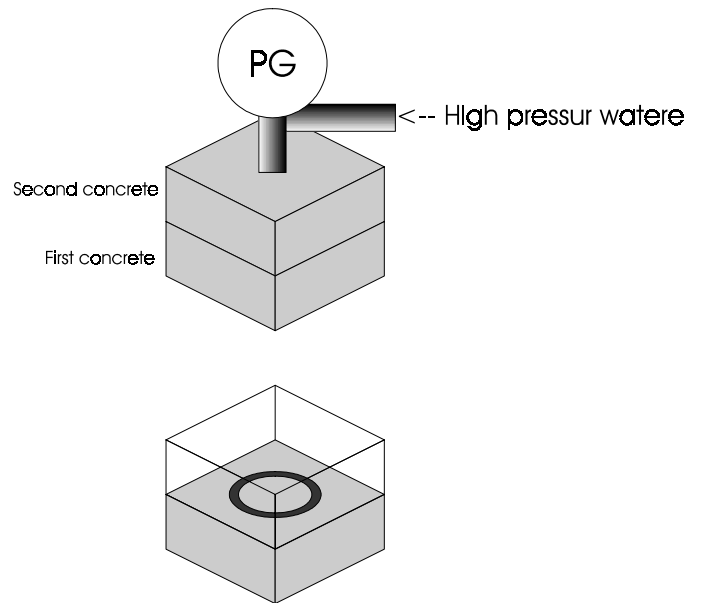


Fig.3 Hydrostatic head Test Block

Result

TEST result is shown follow,

First day (started Hydrostatic head test)

Presser (kgf/cm ²)	1	2	3	4	5	6	7	8	9	10
Opening										
6.0mm	No leak									leak

1 week after

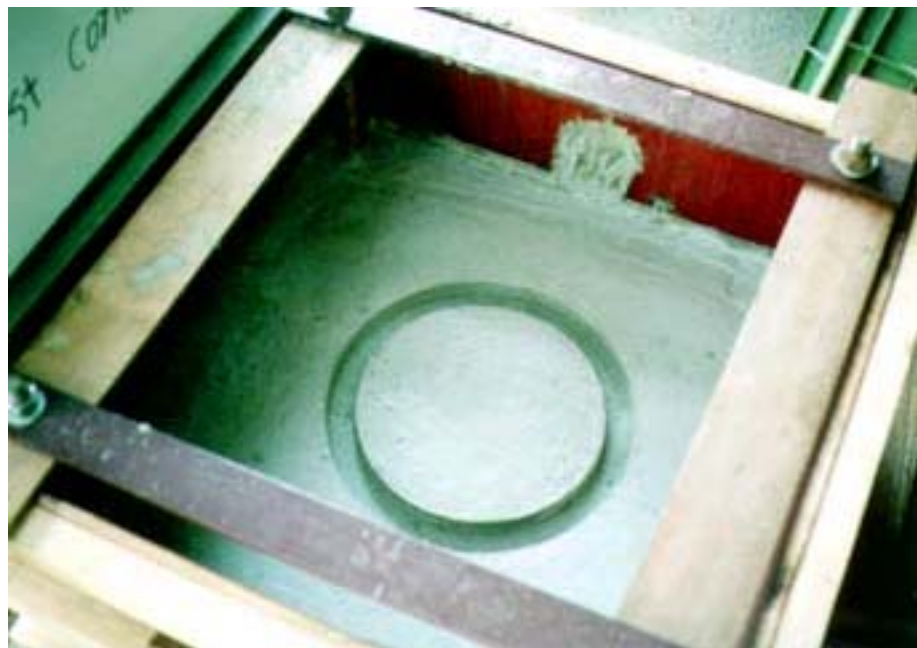
Presser (kgf/cm ²)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Opening															
6.0mm	No leak														

At first, we observe water leakage at 10 (kgf/cm²), but after 1 week, there is no leakage until 15 (kgf/cm²) at 6.0mm-opening.

1. First concrete



2. First concrete
Surface of first concrete.



3. Setting " KM-3030M " to first concrete.
(With P-201)



4. Setting " KM-3030M " to first concrete.
(With P-201)



5. Setting " KM-3030M " to first concrete.
(With P-201)



6. Before, make a second concrete.



7. Make a second concrete.



8. Test result

Opening: 6.0mm

Pressure: 15kgf/cm² (213psi)



9. After hydrostatic head test

KM-3030M



10. After hydrostatic head test
KM-3030M

