



**Faculty of Engineering**  
**Chulalongkorn University**

- Type of test** : Static head leakage test (designated maximum water depth = 2.1 m)
- Test specimen** : Alu-log  
The specimen is a demountable flood protection system designated as "frame barrier" by item 3.2 of PAS 1188-4:2009. The product was provided and installed by the client.
- Client** : Flood solution technology co. ltd.  
6 Soi Ekkachai 87  
Bangbon Bangkok Thailand
- Date of test** : 6-11 June 2012
- Test method** : B.6.2 Static head leakage test in PAS 1188-4:2009  
The specimen was installed in a test facility. Then, water was filled in the test facility to 1/3, 2/3 of the designated maximum water depth (DMWD) of 2.1 m. For each of the static heads, total leakage over a period of 1 hour and horizontal movements at key locations of the test specimen were measured. Then, water was filled to the DMWD and the measurements were done over the first and the last hours of 18 hour period. The test was redone again by the same procedure but the measurements in the last step were done over the first and the last hours of 48 hour period.
- Test results** : The leakages and horizontal movements are shown in the following table. Regarding to the testing results, **the specimen passes the requirement for B.6.2 as specified by item 3.5 in the PAS 1188-4:2009**. These results certify the adequacy and representative character of test sample only.

Test cycle	First cycle				Second cycle			
Water level (times of DMWD)	1/3	2/3	3/3	3/3	1/3	2/3	3/3	3/3
Time lapse (hours)	1	1	1	18	1	1	1	48
Rate of leakage (ml./h/m)	0	0	0	0	0	0	0	0
Horizontal movement #1 (mm)	0.01	0.05	0.11	0.15	0.01	0.04	0.04	0.12
Horizontal movement #2 (mm)	0.00	0.14	0.32	0.85	0.04	0.12	0.17	0.67

Tested by \_\_\_\_\_

(Assoc. Prof. Dr. Tirawat Boonyatee)

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(Assoc. Prof. Dr. Tirawat Boonyatee)  
(On Behave of Head of Civil Engineering Department)  
June 11, 2012



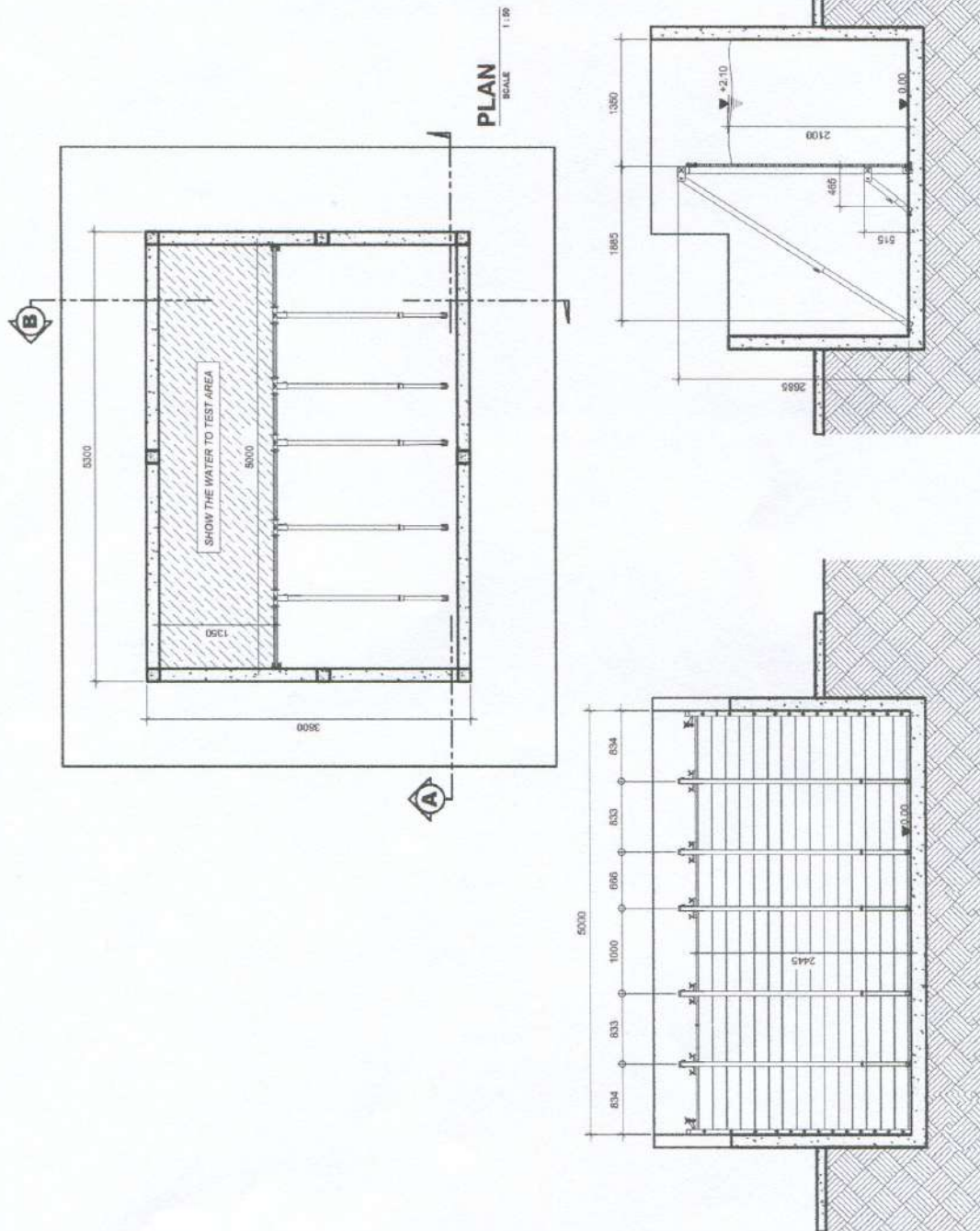


Figure 1 Layout of test facility



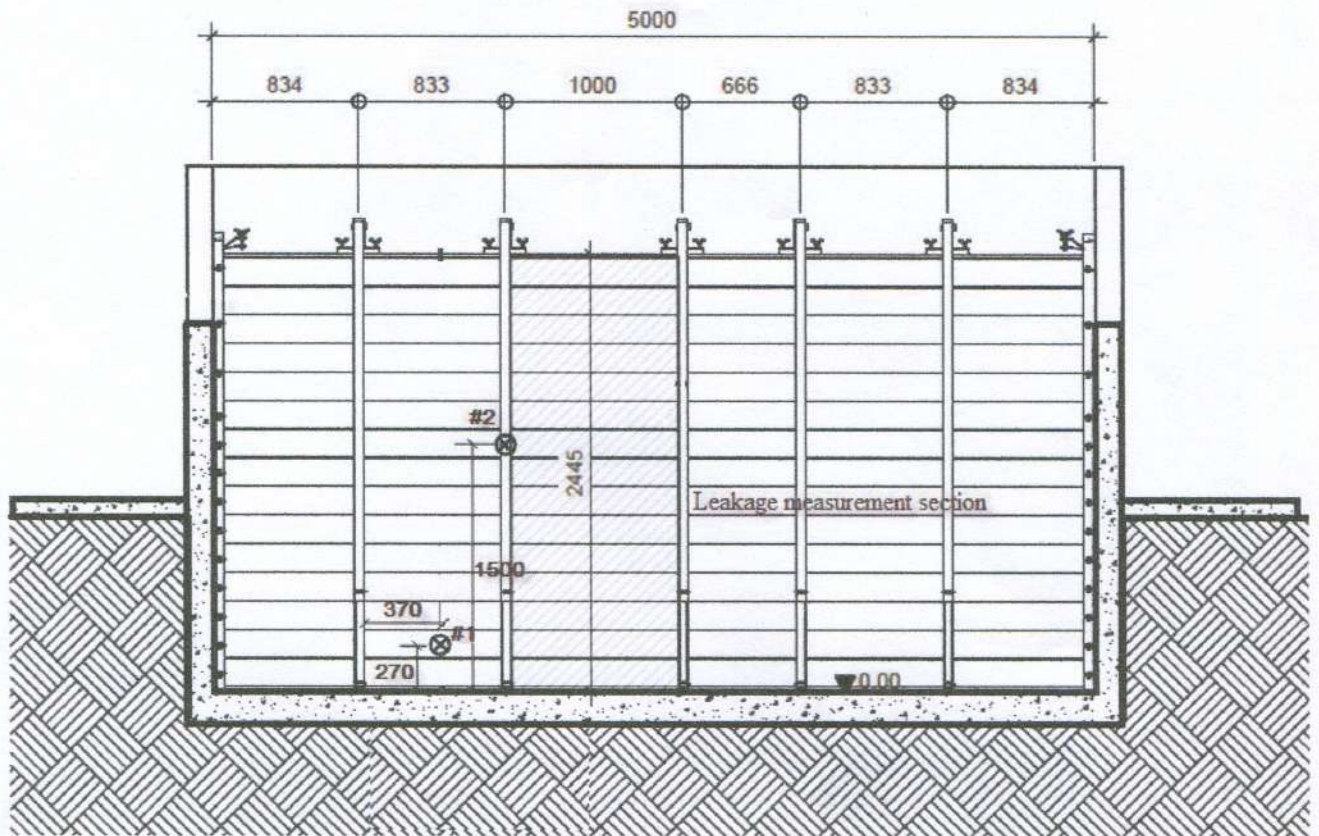


Figure 2 Specimen and measurement points



Figure 3 Leakage measurement section and Horizontal measurement points



Figure 4 Leakage measurement section





Figure 5 Horizontal measurement points (#1)



Figure 6 Horizontal measurement points (#2)

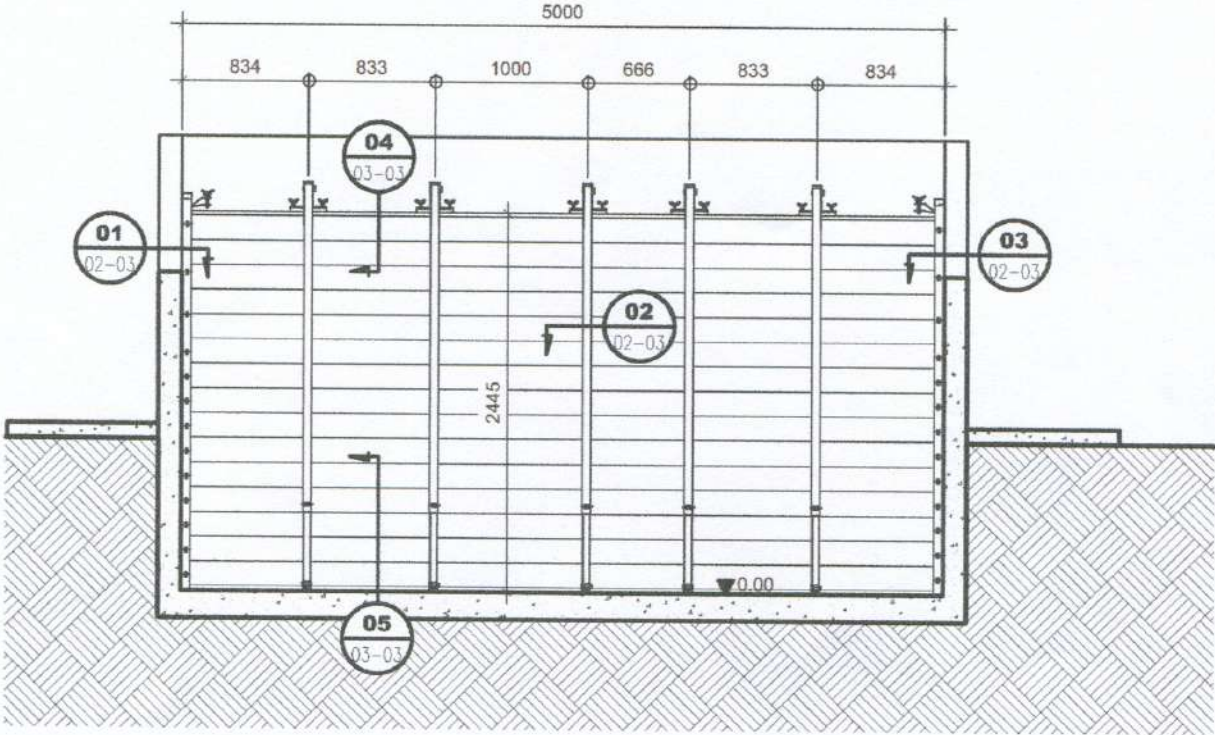


Figure 7 Product details as provided by the client



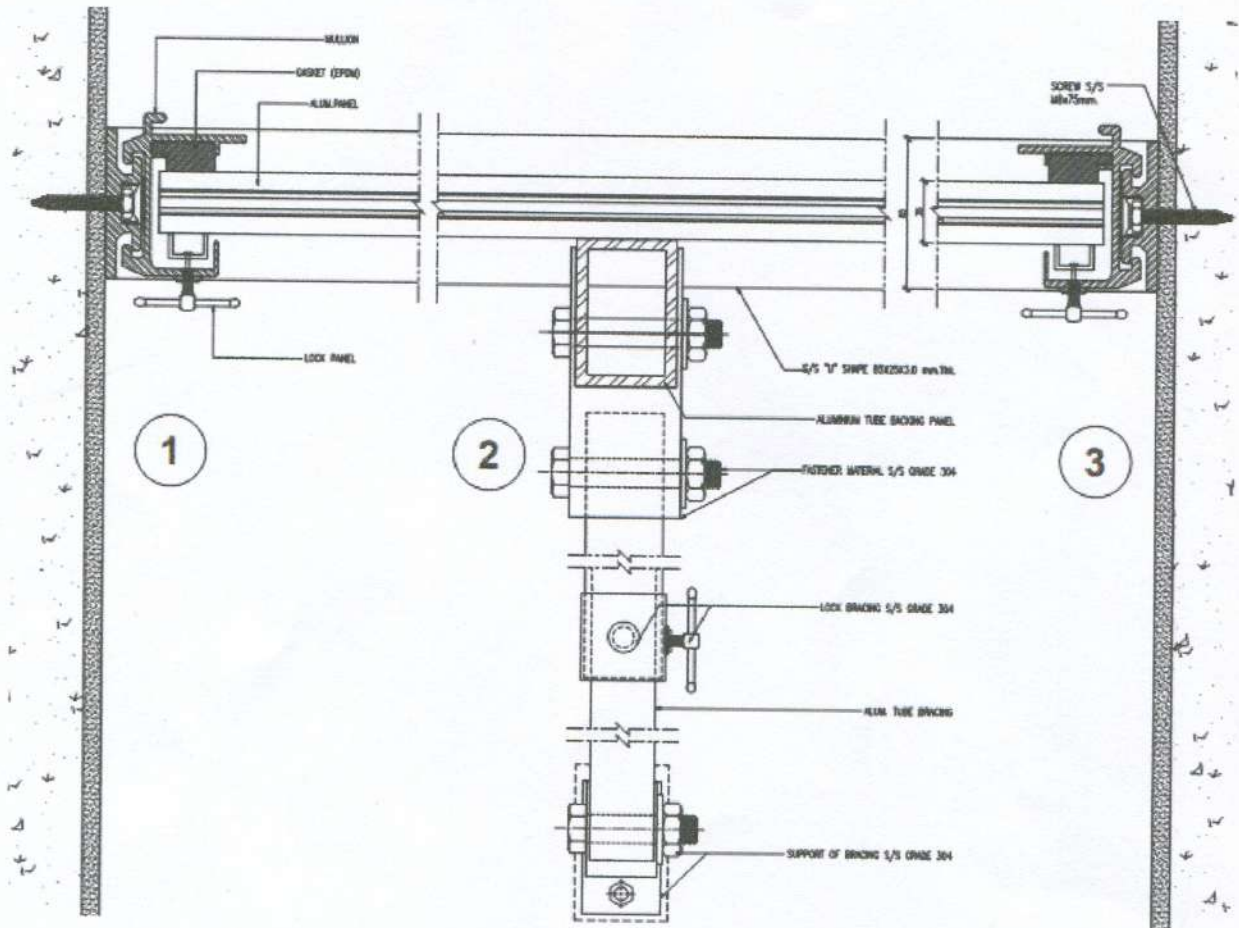


Figure 8 Product details as provided by the client

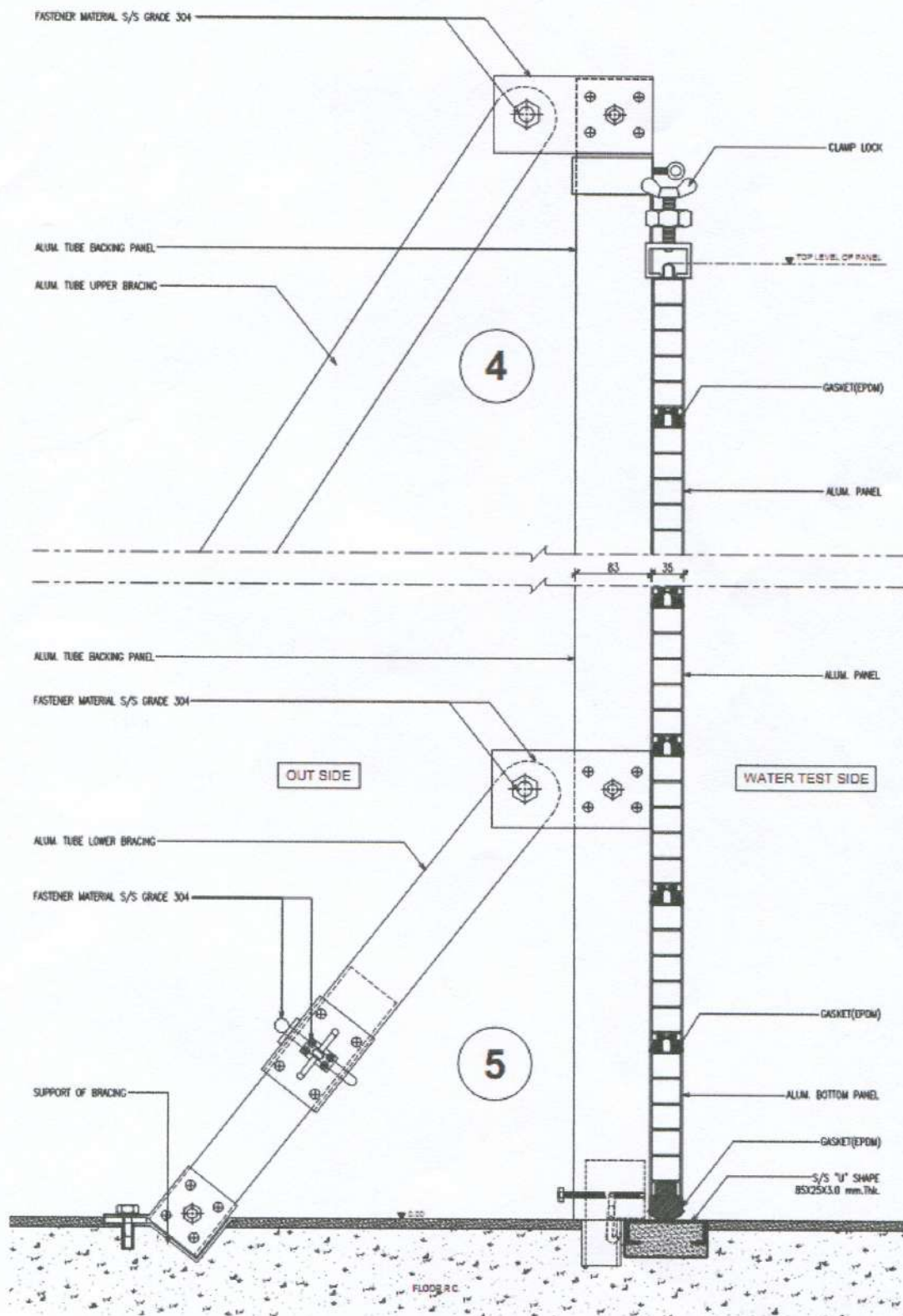


Figure 9 Product details as provided by the client