

Our reference: 27/A17/LTR/Y114

27th January 2017

Dear Valued Customer / Business Partners,

RE: "ALSEAL" AS-206 Bathroom & Sanitary Sealant – Anti-fungal Performance

This is to confirm that the anti-fungal performance of "ALSEAL" AS-206 Bathroom & Sanitary Sealant has been tested by an ISO/IEC 17025 accredited independent third-party testing lab. The following standards were used to test the anti-fungal properties of AS-206:

Test standard	Description	Report No.
ASTM G21	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi	KV-15-08843X-1

ASTM G21 is one of the standard test methods to determine the mold and mildew resistance of sealants. The following five fungi are used:

1. *Aspergillus niger* (ATCC 9642)
2. *Penicillium pinophilum* (ATCC 11797)
3. *Chaetomium globosum* (ATCC 6205)
4. *Gliocladium virens* (ATCC 9645)
5. *Aureobasidium pullulans* (ATCC 15233)

AS-206 specimen is then introduced into a spore suspension of the five fungi above. After incubating for 28 days, the samples are rated according to the following rating:

Rating	Observed Growth on Specimen
0	None
1	Traces of growth (less than 10%)
2	Light growth (10 to 30%)
3	Medium growth (30 to 60%)
4	Heavy growth (60 to complete coverage)



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ISO 9001:2008
Certificate No: QAMYS/0085

Conclusion

Based on the test report, AS-206 was given a rating of 0, with no growth of fungi on the specimen. With this, we could conclude that AS-206 is **suitable for use in conditions that require fungi resistance**.

Should you require further information concerning the above product, please do not hesitate to contact us.

Thank you.

Yours sincerely,
For Alseal Marketing Sdn. Bhd.

Prepared by: Yap Wai Hoong
(R&D Chemist)

Verified by: Alex Ng
(Technical Manager)

Test Report



Report No. : KV-15-08843X-1

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Date of Report : Nov. 20, 2015

Applicant

Alseal Marketing Sdn. Bhd.

Address

Lot 2291, Jalan Kampung Baru, Kg. Baru Sungai Buloh, Selangor.

Product Description

Synthetic Polymeric Materials

Sample Code

AS-206

Date of Sample Received

Sep. 18, 2015

Date of Testing

Sep. 18, 2015~Nov. 19, 2015

Remark

The information mentioned in the above section is provided by Client
(Exclude Date of Sample Received and Date of Testing)

Test Result :

1. Fungi Type :

ASTM G21	ATCC NO.
Aspergillus niger	9642
Penicillium pinophilum	11797
Chaetomium globosum	6205
Gliocladium virens	9645
Aureobasidium pullulans	15233

** Time of Incubation : 28 Days.

2. ASTM G21 Visual Rating of Fungus on Specimen :

Test Item	Observed Growth On Specimen
ASTM G21	None(No Growth) Rating : 0

Rating

Observed Growth

0	None (No Growth)
1	Traces of growth (Less than 10%)
2	Light growth (10 to 30%)
3	Medium growth (30 to 60%)
4	Heavy growth (60% to complete coverage)

Note : 1. The is subcontracted to SGS Food Laboratory- Kaohsiung.

2. This Test Report cancels and supersedes the Test Report No. KV-15-08843X. Revised date : Dec.02.2015

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Rachy Yen

Signed for and on behalf of
SGS Taiwan Ltd.

The required specification(s) offered in this test report is/are for reference only.
The conformity judgment is at the Applicant's final verdict.

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