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TELEFAX

TO	DNV GL Korea Ltd.	DATE	AUG. 02. 2017
	Station Gimhae	REF. NO.	CD-1708 - 001
ATTENTION	Station Manager/ Chang.jun,moon	PAGES	1 / 1
FROM	COSMO Q.M TEAM		

Subject : Notice Letter of Quality issue.

1. Thanks for your cooperation.
2. Please be informed that we found a quality case for some products have been supplied by COSMO with reference to the 'Notice Letter' attached.
3. We will try our best to solve this case, continuously.

Attachment : Notice Letter (3 sheets)

COSMO CO., LTD



Notice Letter

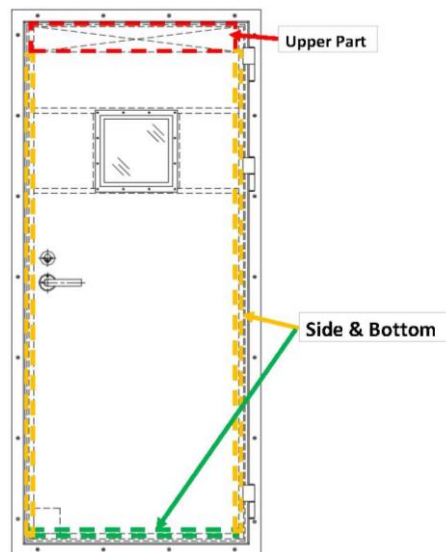
Date : 2017-08-02

Product: Fire doors / A-60, A-0 and B-15 Class

To whom it may concern,

This is to inform all the parties concerned that it was recognized that the insulation material inside the fire doors was partly missing. Please note that the partly missing insulation does not comply with the tested condition of MED-B certified products according to FTP code.

According to the internal investigation, some delivered products were found that the insulation material missing inside of door leaf border according to the sketch as below.



The root cause of this matter was poor workmanship of insulation process in line with the change of work process when new equipment (hot press) was introduced in 2013 November.

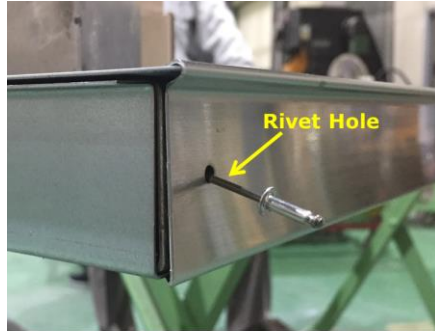
Affected products

We expect that the doors produced since 2013 November might be affected by this matter.

How to check

Installation of insulation for delivered products could be checked in the following ways.

1. Removal of rivet or hinge bolt at the side of door.
2. Insert the pin through the hole, and check.
3. If found missing insulation, please inform COSMO



Insulation is missing



Insulation is filled

Verification carried out

In order to provide a quick (interim) solution on board, the following verification tests have been carried out.

A-60 Type

- In order to test possible temporary/alternative repair methods for affected A-60 fire doors a type designation 'A-60GB' with irregular insulation in the same condition as above and with an additional reinforced fire block (30mm) on the upper part of the door leaf was tested according to FTP Code on 24th July. The test specimen met the integrity requirement in FTP Code 3.2 during 60 minutes. However, the temperature of the test specimen was observed to exceed the maximum temperature after 52 minutes of testing; after 60 minutes the allowable maximum temperature of 180°C was exceeded by 27°C.

A-0 Type

- A fire door of type designation 'A-0SB' with irregular insulation was tested according to FTP Code on 15th July. The result of the test was satisfactory and the door found to meet A-0 class door requirement.
- The test lab was asked to provide a confirmation that this test result might be considered as representative for other A-0 type doors as the main structure of the door leaf is similar.

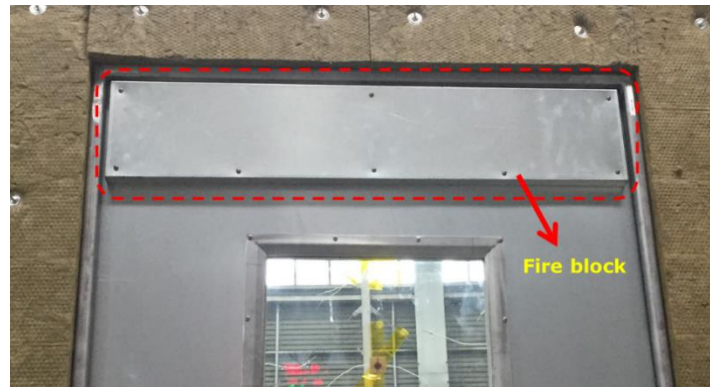
B-15 Type

- The main structure of the B-15 door leaf is similar as A-0 types, but B-15 doors have to be tested in a different (B-15) bulkhead. Additional fire test for B-15 doors are scheduled, please see additional fire test plan below. The final test result will be informed after the completion of the fire tests.

Alternative solutions / Proposed temporary repair method

A-60 Type

- If missing insulation as described above is found, the installation of fire block (Fire Master Marine Plus 128kg/cm³ density, 50mm thickness) on the upper part of door can be an alternative solution or a temporary repair to meet A-60 class fire door requirement.
- In addition, alternative solutions, such as some material injection, are being investigated at the moment and we will inform when it is concluded.



Additional fire test plan

Please be informed that additional fire tests are planned as follows.

- 3rd August 2017 : B-15 (45mm thickness)
- 8th August 2017 : A-0 (Double leaf)
- 9th August 2017 : B-15 (38mm thickness)

We express our deepest regret to cause your concerns and inconveniences.

We will keep you updated with further notice including above test results and further actions to be taken earliest available.

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Chief Executive Officer



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