

FIELD TEST REPORT

FIRE SAFING DOOR
(ESCAPE PASSAGE FOR RAILROAD)

CNC

TESTING LABORATORY

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ATTACHED : CERTIFICATES OF MOCK-UP TESTING LABORATORY

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1.GENERAL

- 1-1. PROJECT : FIRE SAFING DOOR(ESCAPE PASSAGE FOR RAILROAD)
1-2. PLACE OF TEST : #383 MAN HEUNG-DONG, YEO SOO-CITY, JEONNAM, SOUTH KOREA
1-3. DATE OF TEST : MAR. 11TH. 2009. 10:40 A.M ~ 11:20 A.M
1-4. DATE OF REPORT : MAR. 16TH. 2009.
1-5. CLIENT : SAMHOON CO.,LTD , #557-1 SONG NAE2-DONG, SOSA-GU,
BUCHEON-CITY, GYEONGGI PROVINCE, SOUTH KOREA

2.WEATHER CONDITION

- 2-1. DATE : MAR. 11TH. 2009.
2-2. WEATHER : CLEAR
2-3. TEMPERATURE : 16.5 deg.C
2-4. HUMIDITY : 34 %
2-5. ATMOSPHERIC PRESSURE : 1020 HPa

3.PARTICIPANTS

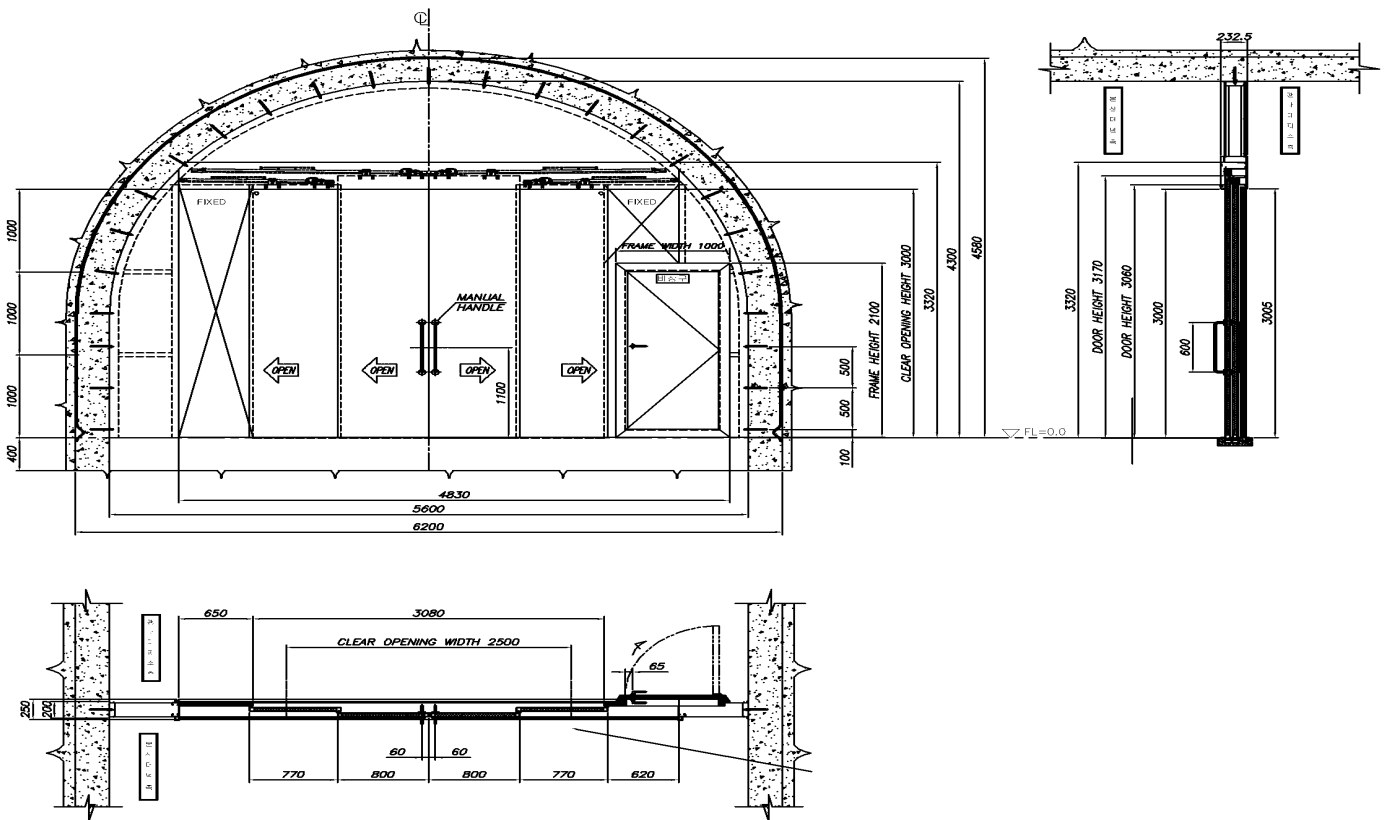
JONG-WOON HONG (GENERAL MANAGER) : HYUNDAI E&C CO.,LTD
JAE-BO OH (GENERAL MANAGER) : HYUNDAI E&C CO.,LTD
SE-YOUNG KIM (GENERAL MANAGER) : HYUNDAI E&C CO.,LTD
YOUNG-HEE LEE (DEPUTY MANAGER) : DAEHAN CONSULTANT CO.,LTD
WOO-SUNG KIM (EXECUTIVE MANAGING DIRECTOR) : SAMHOON CO.,LTD
CHANG-HOON KIM (DEPUTY MANAGER) : SAMHOON CO.,LTD
BYOUNG-HOON GIL (ASSISTANT MANAGER) : CNC
YI-BOK CHUNG (CHIEF ASSISTANT MANAGER) : CNC
DONG-JIN RO (ASSISTANT MANAGER) : CNC

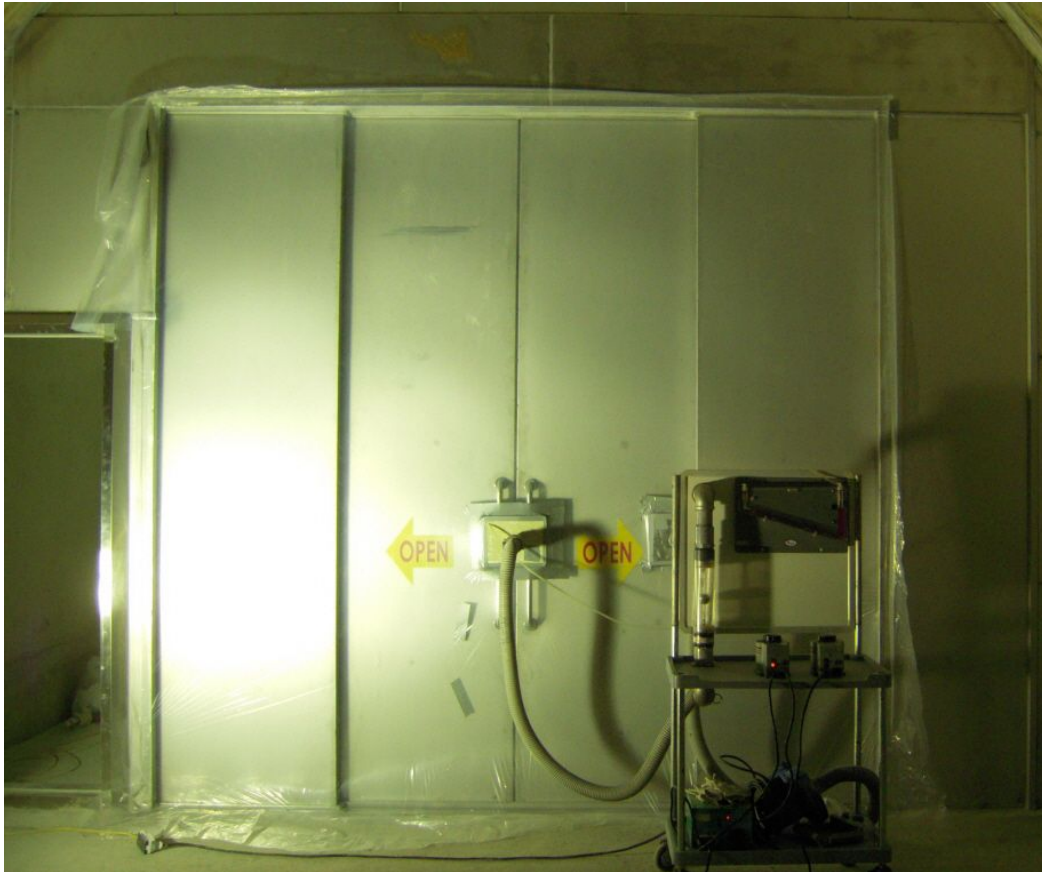
4.SPECIMEN DESCRIPTION

4-1. FIRE SAFING DOOR(ESCAPE PASSAGE FOR RAILROAD)

4-1-1. SPECIMEN DIMENSION : 3.08m (W) X 3.00m (H) = 9.24 m² = 99.46 ft²

4-1-2. SPECIMEN ELEVATION :





△PANORAMIC PHOTO OF SPECIMEN

5. TEST SPECIFICATION

5-1. STATIC AIR INFILTRATION : ASTM E 783

FIELD MEASUREMENT OF AIR LEAKAGE THROUGH INSTALLED EXTERIOR
WINDOWS & DOORS

5-2. THE ALLOWABLE OF AIR LEAKAGE : LESS THAN $0.04 \text{ m}^3/\text{sec}\cdot\text{m}^2$ (= $7.87 \text{ cfm}/\text{ft}^2$)

6. METHOD & RESULT OF TEST

6-1. STATIC AIR INFILTRATION TEST : ASTM E 783

AIR LEAKAGE RATE WAS MEASURED AT THE SPECIMEN MAINTAINING 50Pa(= +5.1kg/m²) UNDER STATIC PRESSURE. THEN FILM WAS PUT ON THE CHAMBER TO MEASURE THE AIR LEAKAGE RATE FROM THE CHAMBER.

ALLOWABLE : LESS THAN 0.04 m³/sec·m²(= 7.87 cfm/ft²)

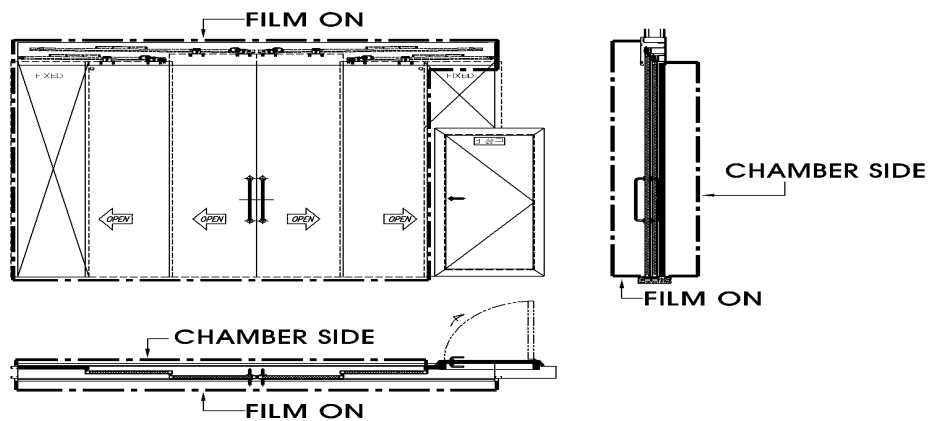
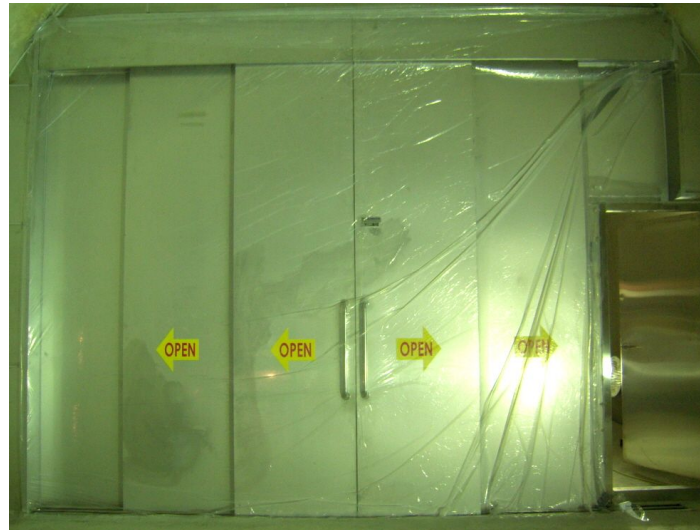
§. NOTE - cfm : CUBIC FOOT PER MINUTE

* AIR INFILTRATION TEST EQUIPMENT

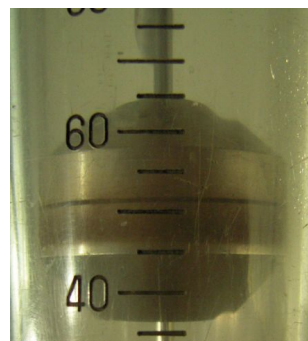
- AIR FLOWMETER : RMC, DWYER, SCFM 160
- SMALL BLOWER : CADILLAC HAND-HELD AIR TOOLS HP-33P, CLEMENT NATIONAL COMPANY
- MANOMETER : DURABLOCK SOLID PLASTIC INCLINED GAUGE, DWYER(4" H₂O)

6-1-1. MEASUREMENT OF AIR LEAKAGE RATE

A) 1ST RUN, AIR INFILTRATION THROUGH CHAMBER

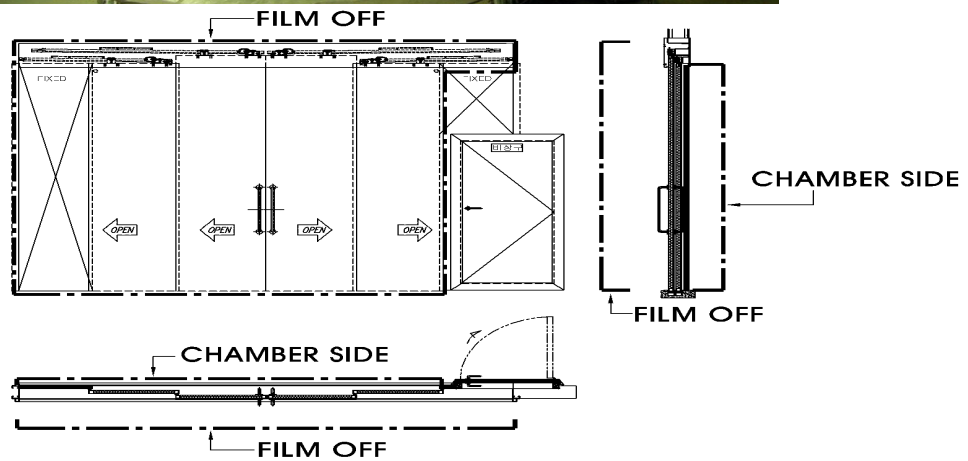
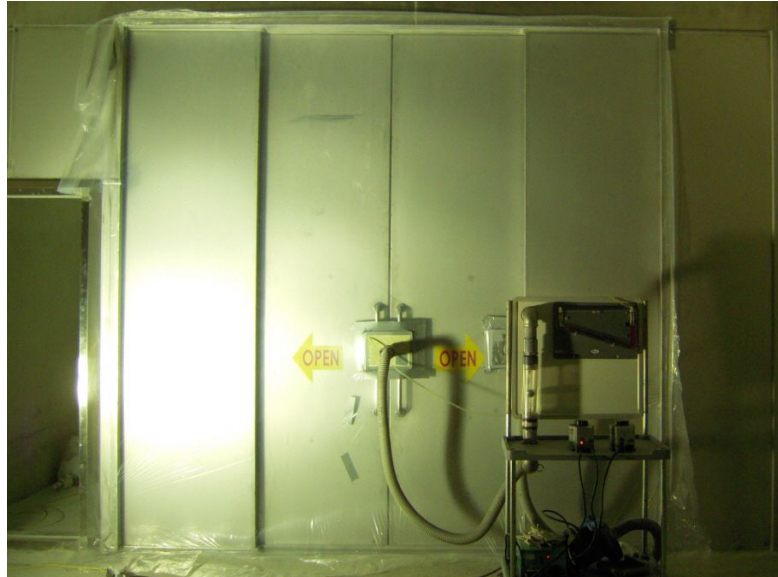


Δ 0.2" H₂O (= 50 Pa)

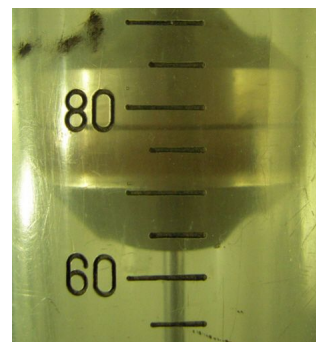


Δ 52 cfm
 (AIR LEAKAGE @ CHAMBER)

B) 2ND RUN, AIR INFILTRATION THROUGH CHAMBER AND SPECIMEN



△ 0.2" H₂O (= 50 Pa)



△ 78 cfm

(AIR LEAKAGE @ CHAMBER + SPECIMEN)

6-1-2. AIR INFILTRATION FOR SPECIMEN

$$2^{\text{ND}} \text{ RUN} - 1^{\text{ST}} \text{ RUN} = 78 \text{ cfm} - 52 \text{ cfm} = 26 \text{ cfm}$$

ALLOWABLE BY SPEC	: 7.87 cfm/ft ² (= 0.04 m ³ /sec·m ²)
SPECIMEN AREA	: 99.46 ft ²
ALLOWABLE FOR SPECIMEN	: 7.87 cfm/ft ² × 99.46 ft ² = 782.7 cfm > 26 cfm

TEST RESULT IS SATISFACTORY

7. SUMMARY

TEST RESULT OF FIRE SAFING DOOR(ESCAPE PASSAGE FOR RAILROAD) IS AS FOLLOWS.

THE RESULT OF AIR INFILTRATION TEST IS SATISFACTORY.

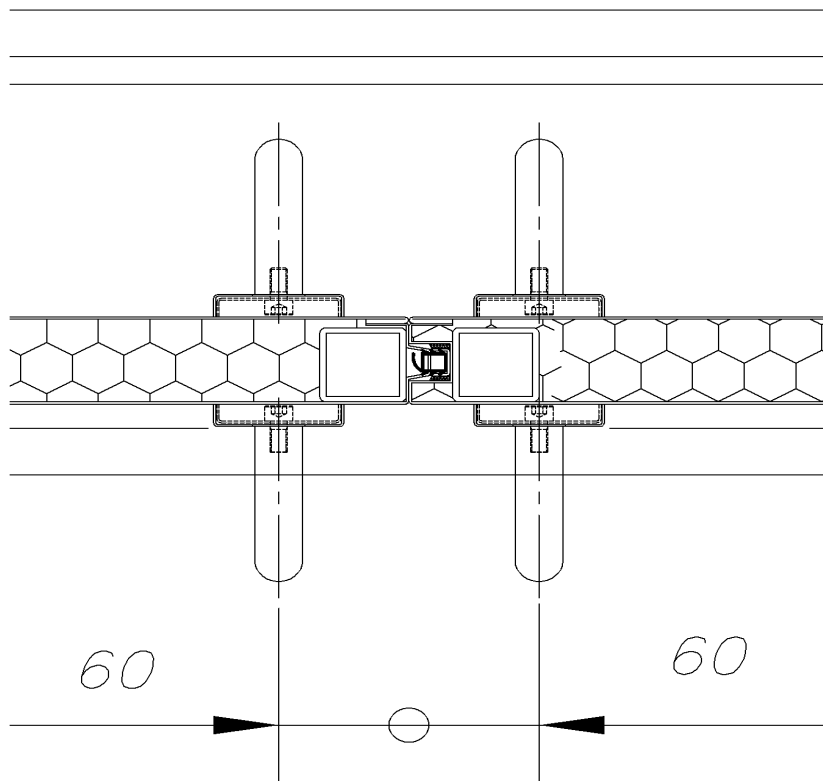
PLEASE DO NOT HESITATE TO ASK TO LABORATORY WHEN YOU HAVE QUESTIONS ABOUT THIS TEST OR REPORT.

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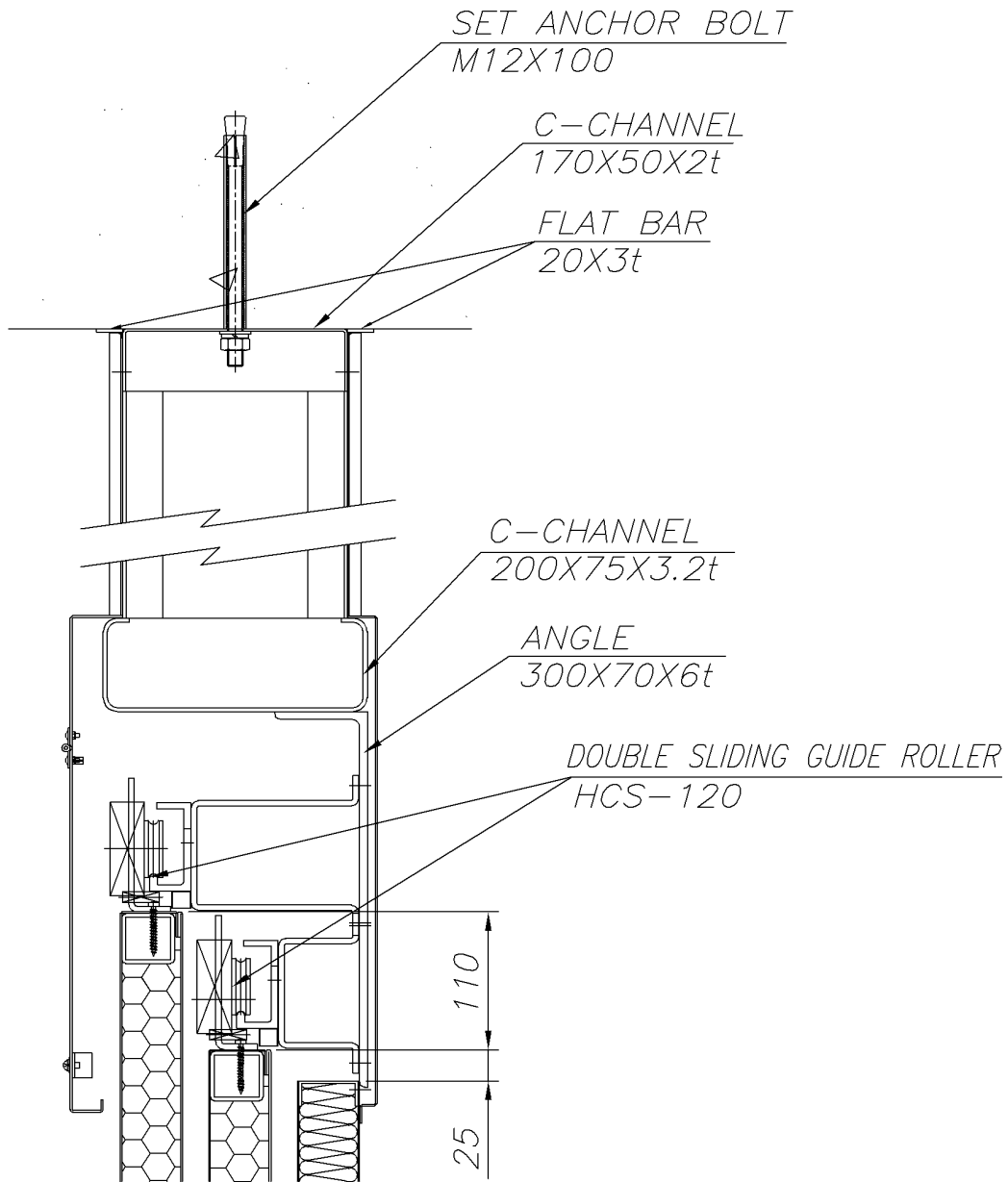
President JIN-SE CHUNG

8. DETAIL DWG.

8-1. HORIZONTAL SECTION FOR MEETING STILE



8-2. VERTICAL SECTION FOR ANCHOR & TOP RAIL



8-3. VERTICAL SECTION FOR BOTTOM RAIL

