



Report No. JDQ200254A

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Date Nov. 18, 2020

Test Report

Test Item	Surface burning Characteristics
Client	Takasho Co., Ltd.
Address	20-1, Minamiakasaka, Kainan, Wakayama, 642-0017, JAPAN
Observer	None
Registration No.	JDP200254
Registration Date	Jun. 18, 2020
Sample Receipt Date	Nov. 6, 2020
Test Date	Nov. 13, 2020
Test Sample	① PVC exterior 10 × 100 C-Channel ② Olefin exterior 10 × 100 C-Channel
Number of The Test	2(1 each)
Test Standard No.	ASTM E84
Test Location	1-4-4 Shinmiyakoda, Kita-ku, Hamamatsu-City, Shizuoka Pref. 431-2103 JAPAN Japan Electric Cable Technology Center
Test Apparatus	Steiner Tunnel

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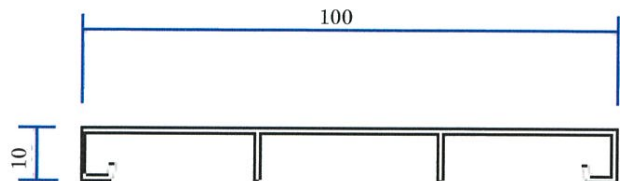
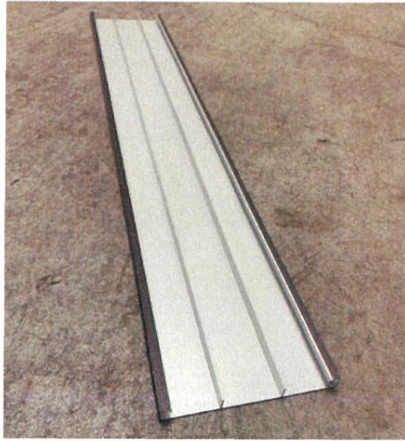
1. Test Method
ASTM E84

2. Test Sample

① PVC exterior 10 × 100 C-Channel

② Olefin exterior 10 × 100 C-Channel

[(Length:100mm×Width:600mm×Thickness:1.2mm)×73pieces]



1 Test Conditions

Item	Requirement	PVC exterior	Olefin exterior
Room Temperature (°C)	18.3~26.7	23.6	22.9
Relative Humidity (%)	45~60	50.8	51.7
Starting Temp. at 13ft (floor) (°C)	40.5±2.8	40.5	41.9
Velocity in the furnace (ft/min)	240±5	241.5	241.5

2 Test Result

Flame Spread Results

Item	PVC exterior	Olefin exterior
Total area (A_T) (ft·min) *1	49.7	43.0
Flame Spread Index (FSI)[unrounded] *2	26	22
Flame Spread Index (FSI)*3	25	20
Maximum Flame Spread (ft)	5.5	5.5
Time to Ignition (sec)	43	53

*1 Total area (A_T) under the flame spread distance-time plot shall be determined by ignoring any flame spread recession.

*2 Calculation formula of FSI is below.

(i) $A_T \leq 97.5$

$$FSI = 0.515 \times A_T$$

(ii) $A_T > 97.5$

$$FSI = 4900 / (195 - A_T)$$

*3 The flame spread index (FSI) shall be the value, rounded to the nearest multiple of five.

Smoke Results

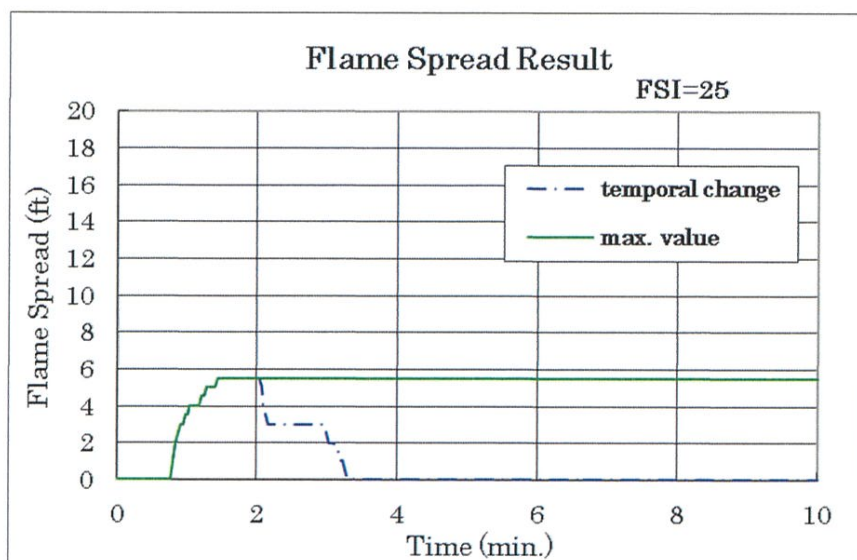
Item	PVC exterior	Olefin exterior
Smoke Area (%*min)	85.0	37.3
Heptane Calibration (%*min)	82.8	82.8
Smoke Developed Index (SDI) [unrounded]	103	45
Smoke Developed Index (SDI) *4	105	45

*4 SDI is explained in detail below.

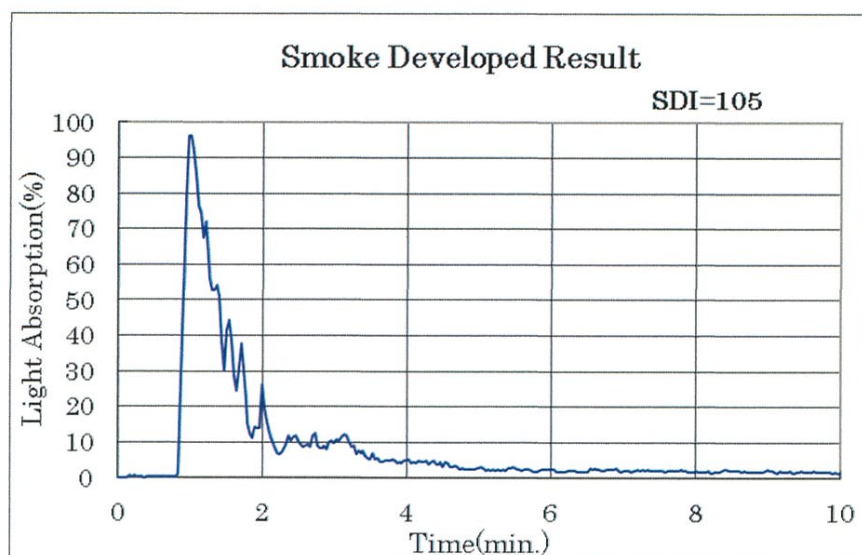
The test results for smoke shall be plotted and the area under the curve shall be divided by the area under the curve for heptane, multiplied by 100 and rounded to the nearest multiple of five.

For 200 or more, the calculated value shall be rounded to the nearest 50 points.

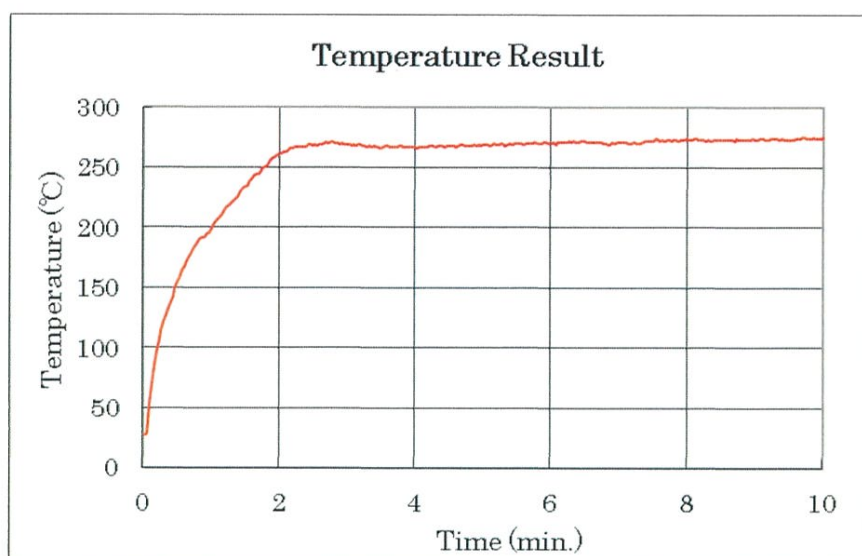
①PVC exterior 10×100 C-Channel



Graph1 Flame Spread vs. Time

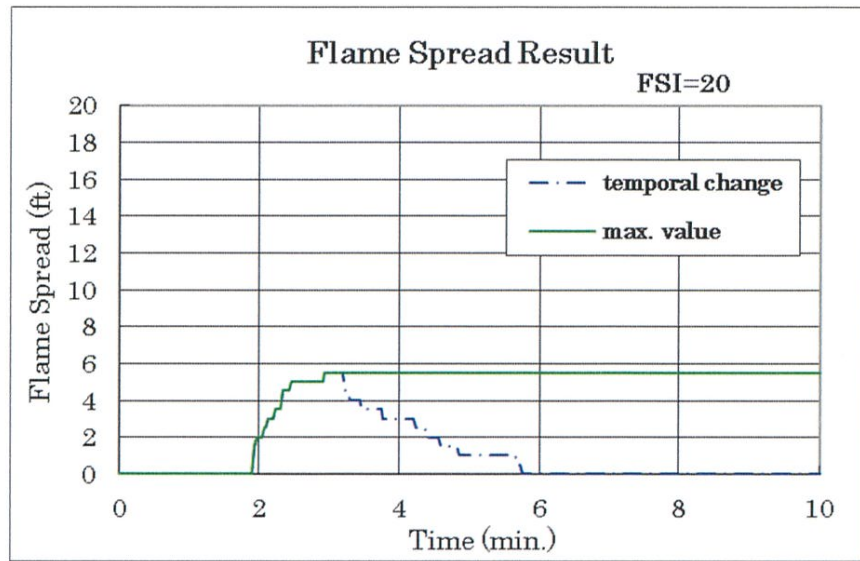


Graph2 Smoke Developed vs. Time

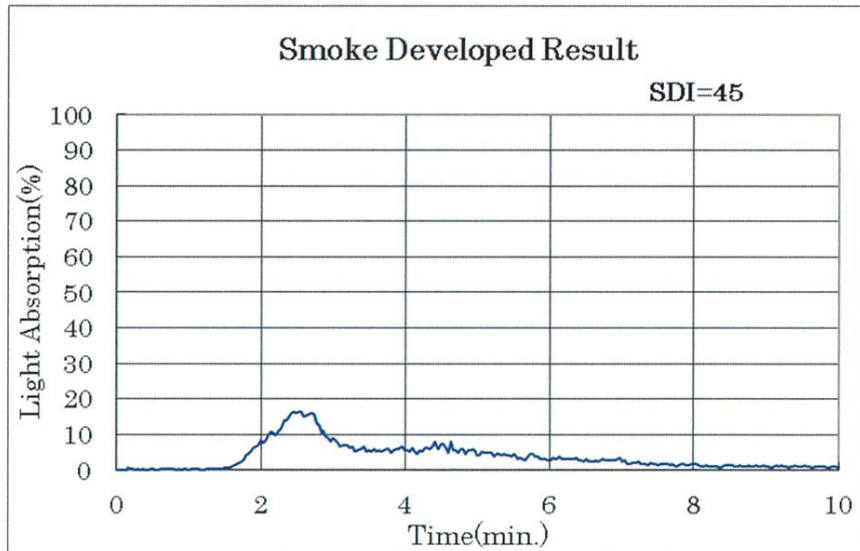


Graph3 Furnace temperature vs. Time

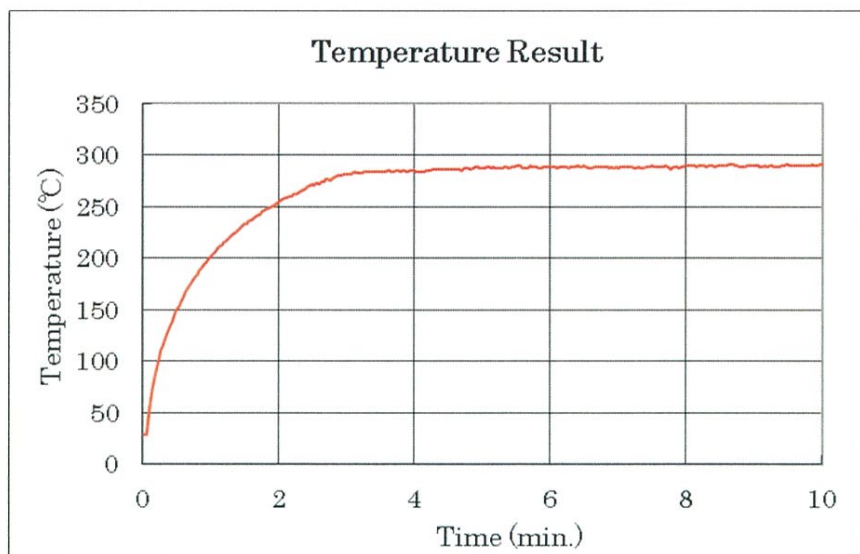
②Olefin exterior 10×100 C-Channel



Graph4 Flame Spread vs. Time



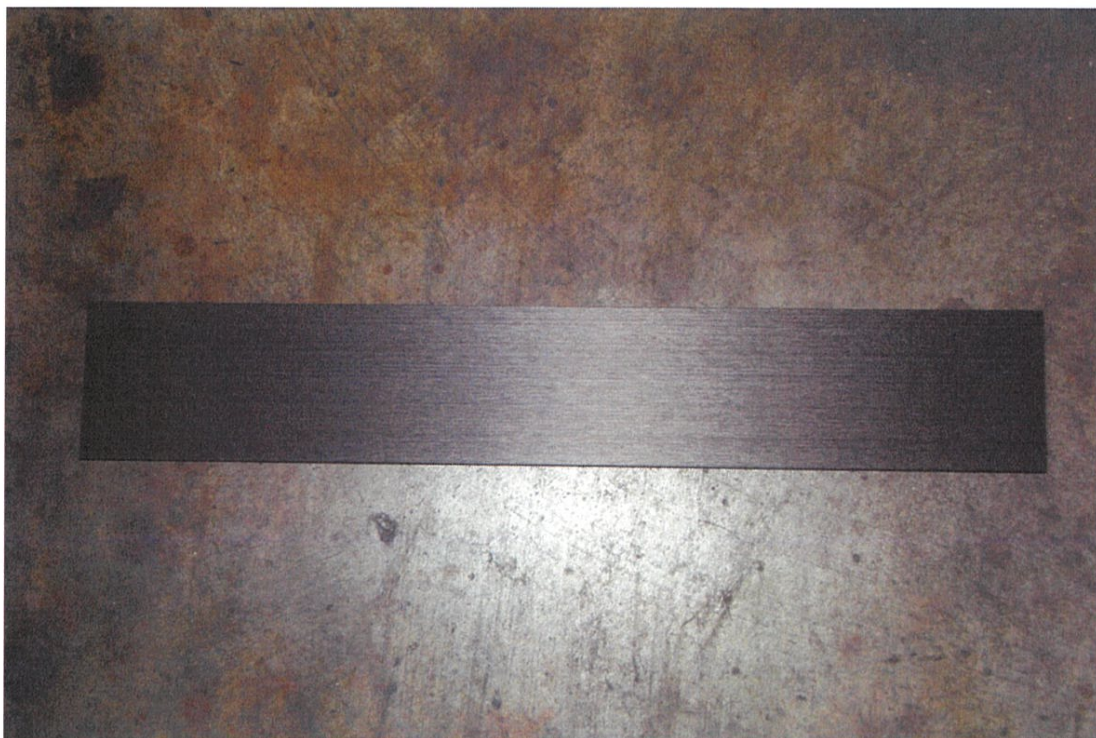
Graph5 Smoke Developed vs. Time



Graph6 Furnace temperature vs. Time

3 Photo

① PVC exterior 10 × 100 C-Channel



Before testing
(exposed side)



Before testing
(unexposed side, near side of burner)



Before testing
(unexposed side, far side of burner)



After testing
(unexposed side,near side of burner)



After testing
(unexposed side,far side of burner)



After testing
(exposed near side of burner)



After testing
(exposed far side of burner)

②Olefin exterior 10×100 C-Channel



Before testing
(exposed side)



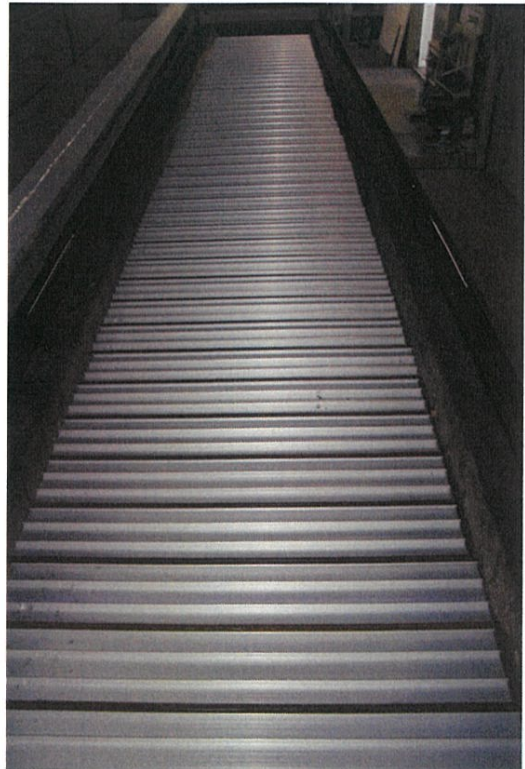
Before testing
(unexposed side, near side of burner)



Before testing
(unexposed side, far side of burner)



After testing
(unexposed side,near side of burner)



After testing
(unexposed side,far side of burner)



After testing
(exposed near side of burner)



After testing
(exposed far side of burner)