

DIVISIONE: **TESTING-CERTIFICAZIONE**
 DIVISION: **TESTING & CERTIFICATION**

 LABORATORIO: **Fisica della Combustione**
 LABORATORY: **Physics of Combustion**
RAPPORTO DI PROVA
(Test Report)

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 N° **0066\DC\REA\17_1**

 Data: **06/02/2017**
 Date:

 IDENTIFICAZIONE E DESCRIZIONE DEL CAMPIONE:
 SPECIMEN DESCRIPTION:

 Nome commerciale : **SEVALCON 202**
Product Name
 Descrizione : **Vedi pagina 3**
Description : **See page 3**

 DATI IDENTIFICATIVI DEL CLIENTE:
 CLIENT:

 Nome / Name : **IMPOL SEVAL A.D.**
 Indirizzo / Address : **Prvomajska b. b.**
 Città / City : **RS31205 Sevojno - Serbia**

 NORMA DI RIFERIMENTO:
 REFERENCE STANDARD:

 Norma Tecnica / Technical standard:
EN 13823:2010+A1:2014 - Reaction to fire tests for building products – Building products excluding floorings exposed to the thermal attack by a single burning item

 DISTRIBUZIONE ESTERNA:
 OUTSIDE DISTRIBUTION:

Originale cliente
Original : Client

 DISTRIBUZIONE INTERNA:
 INSIDE DISTRIBUTION:

Copia capo laboratorio
Copy: Head of laboratory

 ENTE DI ACCREDITAMENTO:
 ACCREDITATION BODY:

 LAB N°0006
 Signatory of EA, IAF and ILAC
 Mutual Recognition Agreements

DATI GENERALI / GENERAL DATA :

- Data ricevimento campioni / *Product supply date*: **17.01.2017**
- Data esecuzione prove / *Date of test*: **01.02.2017**
- Identificazione delle norme di riferimento: **EN 13823:2010+A1:2014**
Standard reference identification: **EN 13238:2010**
- Identificazione dei metodi di prova: //
Test method identification: //
- Campionamento / *Sampling*: **Provette ricavate dal laboratorio su lotto di materiale fornito dal cliente.**
Specimens taken from sample supplied by the client.
- Costruzione dei provini / *Specimens construction*: **Nessun giunto.**
No joint.
- Condizionamento secondo EN 13238: **23 °C - 50 % u.r. per 336 ore**
Conditioning complying EN 13238.....: **23 °C - 50 % r.h. for 336 hours**
- Procedura normalizzata / *Standard procedure*: **SI / Yes**
- Deviazione dai metodi di prova: **NO / No**
Standard procedure deviation
- Controllo calcoli / *Calculation check*: **SI / Yes**

CAMPIONI ANALIZZATI / SAMPLES TESTED:

- 3 Provette campione denominate / 3 Specimens of sample identified:

SEVALCON 202

Descrizione.....:	Pannello in alluminio verniciato con vernice a base di PVDF
Description.....:	Aluminum painted panel with PVDF based paint
Spessore Spessore.....:	0,5 mm
Thickness.....:	0,5 mm
Peso per unità di superficie.....:	1450 ± 10 g/m²
Mass unit area.....:	1450 ± 10 g/m²
Vernice su lato a vista.....:	80,8 g/m² (fondo 12,3 g/m², finitura 68,5 g/m²)
Paint on front side.....:	80,8 g/m² (fondo 12,3 g/m², finitura 68,5 g/m²)
Vernice su lato non a vista.....:	11,2 g/m²
Paint on back side.....:	11,2 g/m²
Tipo di substrato.....:	Nessuno.
Substrate type.....:	None.
Allestimento del campione.....:	Costruzione del provino come da EN 13823 par 5.2 a) con pannelli sul retro posti a 80 mm dal campione.
Specimen mounting and fixing.....:	Specimen mounting complying to EN 13823 par 5.2 a) with backing boards at a distance of 80 mm from the specimen.

DICHIARAZIONE / STATEMENTS:

- I risultati di prova contenuti nel presente rapporto si riferiscono esclusivamente al campione provato.
Test results contained in this test report relate only to specimens tested.
- Il presente rapporto non può essere riprodotto parzialmente senza l'autorizzazione del Responsabile del Centro.
The test report shall not be reproduced except in full without the written approval of the Managing Director.
- I dati tecnici riportati nella descrizione del campione sono desunti dalla scheda tecnica allegata dal cliente al campione di prova.
The technical data reported on the specimen description are taken from client technical sheet
- I risultati di prova si riferiscono esclusivamente al comportamento dei provini di un materiale nelle particolari condizioni della prova; essi non sono destinati ad essere l'unico criterio per la valutazione della pericolosità potenziale del materiale in opera.
The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

FOTOGRAFIE / PHOTOGRAPHS



Vista frontale ala lunga /
Long wing front view



Angolo verticale esterno dell'ala lunga /
Long wing vertical outer edge

RISULTATI / RESULTS:

- Metodo di prova

EN 13823:2010+A1:2014

Identificazione provetta <i>Specimen identification</i>	FIGRA 0.2MJ/0.4MJ [W/s]	THR [MJ]	LFS [Si/Yes – No/No]	SMOGRA [m ² /s ²]	TSP [m ²]	FDP [No - <10s - >10s]
1	Soglia non raggiunta <i>Threshold not reached</i>	0,4	No/No	Soglia non raggiunta <i>Threshold not reached</i>	18,4	No/No
2	Soglia non raggiunta <i>Threshold not reached</i>	0,2	No/No	Soglia non raggiunta <i>Threshold not reached</i>	6,3	No/No
3	Soglia non raggiunta <i>Threshold not reached</i>	0,2	No/No	Soglia non raggiunta <i>Threshold not reached</i>	8,1	No/No
Media <i>Average</i>	0 0	0,3	No/No	0	10,9	No/No

FIGRA = fire growth rate index
 THR = total heat release
 LFS = lateral flame spread
 SMOGRA = smoke growth rate index
 FDP = flaming droplet or particles
 TSP = total smoke production

 DATA
 Date

 Settore Fisica della Combustione
 Physics of Combustion Sector

 Area Testing
 Testing Area

06/02/2017

Lorenzo Zavaglio



Paolo Fumagalli

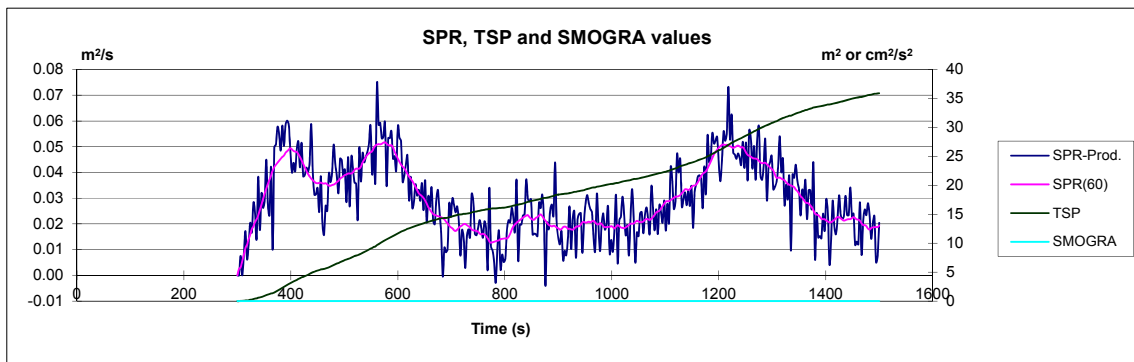
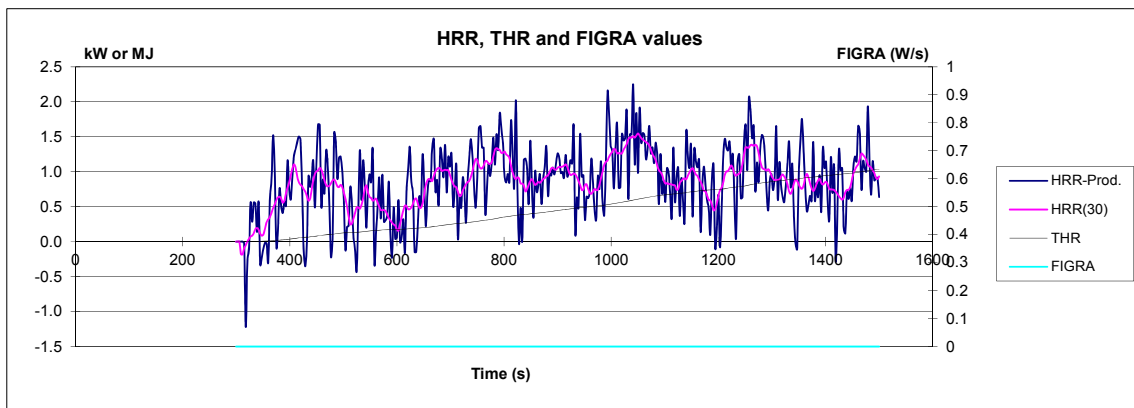
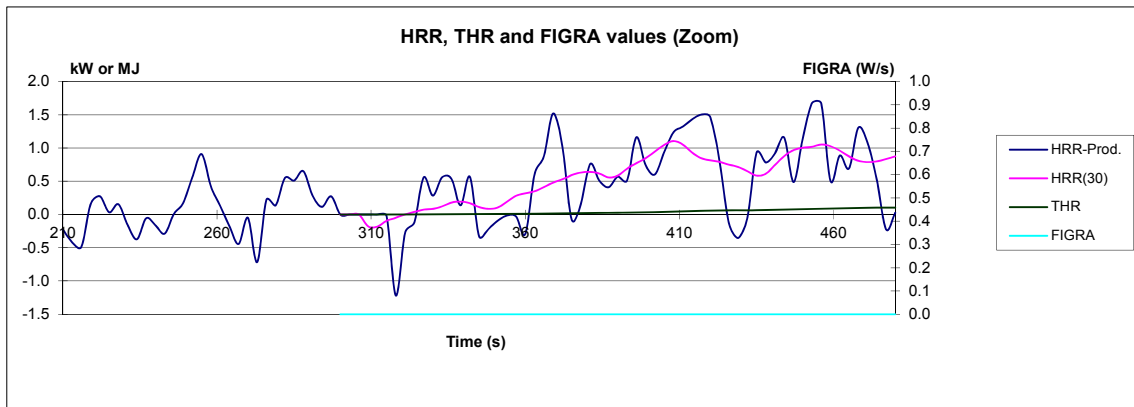


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 Digitally signed document in accordance with Legislative Decree n. 82 dated March 7th 2005 and subsequent amendments.

SBI Test Report

 Laboratory: CSI S.p.A.
 Product: SEVALCON 202

		Test no.	Test date:	Print date:
		1	01/02/2017	03/02/2017
Test condition		Check points		Results
Baseline duct temp. $t_{(t=30-90)}$ [K]	293.48	HRR _{av, burner} [KW]	29.162	FIGRA threshold: 0.2 MJ [W/s] 0.0
Ambient pressure. [Pa]	101180	HRR _{std burner} [KW]	0.351	FIGRA threshold: 0.4 MJ [W/s] 0.0
Humidity [%]	30	CO ₂ /O ₂ Ratio _{burner}	0.676	THR ₆₀₀ [MJ] * 0.4
		SPR _{av, burner} [m ² /s]	0.061	Lateral flame spread (LFS) reach the edge? No
k_t	0.8600	SPR _{std burner} [m ² /s]	0.009	SMOGRA [cm ² /s ²] 0.0
k_p	1.0800			TSP ₆₀₀ [m ²] * 18.4
E' [KJ/m ²]	17200	Ambient temp. $t_{(t=30-90)}$ [K]	289.47	Flaming droplets/particles (FDP) (flaming <= 10 s)? No
Duct diameter: [m]	0.315	No. of acceptable thermocouples	3	Flaming droplets/particles (FDP) (flaming > 10 s)? No
		Minimum for flow [m ³ /s]	0.5692	Time to FIGRA _{0,2} [s] * 0
		Maximum for flow [m ³ /s]	0.6174	Time to FIGRA _{0,4} [s] * 0
		Burner response time [s]	6	Tig (2*6KW) [s] * Not reach
				* After ignition of main burner
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.8018			Synchronisation information
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.9505	End data O ₂ [%]	20.9441	T-Duct (2.5 K drop from baseline)
Baseline CO ₂ $t_{(t=30-90)}$ [%]	0.1976	End data CO ₂ [%]	0.1980	O ₂ (0.05% rise from baseline)
Baseline light signal $t_{(t=30-90)}$	100.0592	End data light signal	99.9237	CO ₂ (0.02% drop from baseline)
				Baseline Last point
				315.89 309
				20.6794 309
				0.3804 306

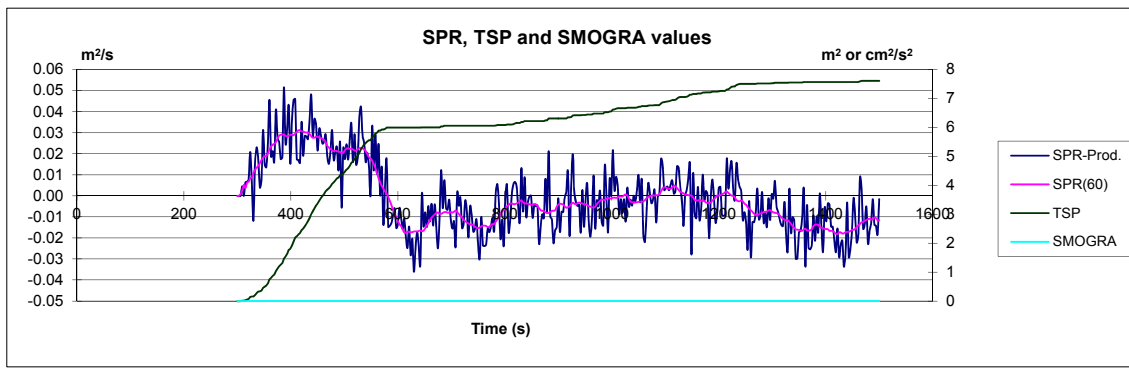
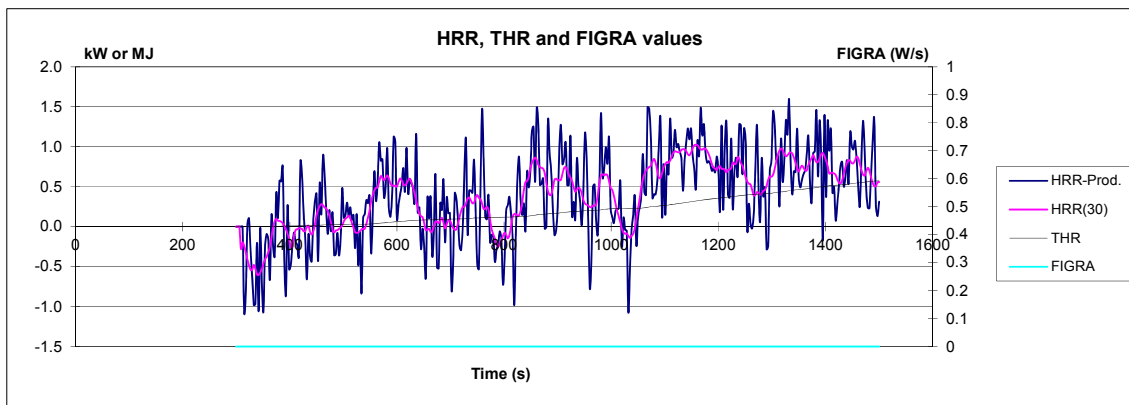
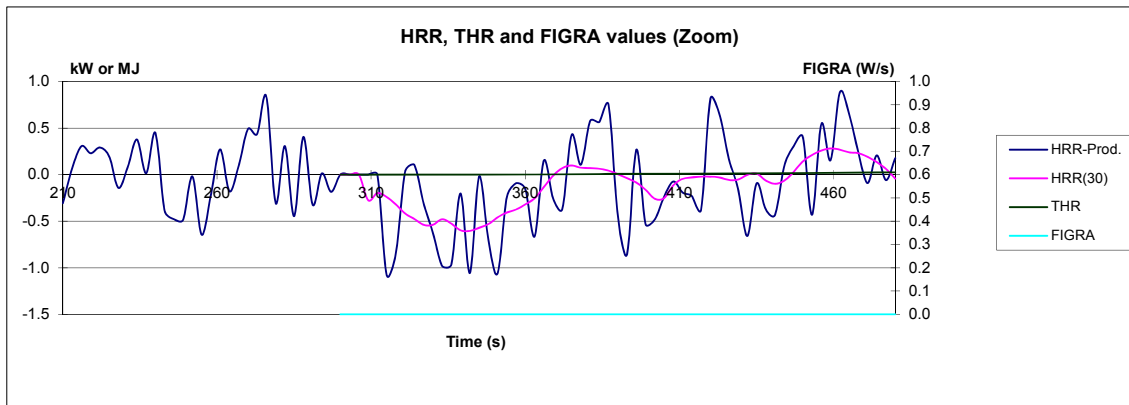


SBI Test Report

Laboratory: CSI S.p.A.

Product: SEVALCON 202

		Test no.	Test date:	Print date:
		2	01/02/2017	03/02/2017
Test condition		Check points		Results
Baseline duct temp. $t_{(t=30-90)}$ [K]	293.93	HRR _{av, burner} [KW]	28.811	FIGRA threshold: 0.2 MJ [W/s] 0.0
Ambient pressure. [Pa]	101216	HRR _{std burner} [KW]	0.329	FIGRA threshold: 0.4 MJ [W/s] 0.0
Humidity [%]	30	CO ₂ /O ₂ Ratio _{burner}	0.664	THR ₆₀₀ [MJ] * 0.2
		SPR _{av, burner} [m ² /s]	0.055	Lateral flame spread (LFS) reach the edge? No
k_t	0.8600	SPR _{std burner} [m ² /s]	0.009	SMOGRA [cm ² /s ²] 0.0
k_p	1.0800			TSP ₆₀₀ [m ²] * 6.3
E' [KJ/m ²]	17200	Ambient temp. $t_{(t=30-90)}$ [K]	291.29	Flaming droplets/particles (FDP) (flaming <= 10 s)? No
Duct diameter: [m]	0.315	No. of acceptable thermocouples	3	Flaming droplets/particles (FDP) (flaming > 10 s)? No
		Minimum for flow [m ³ /s]	0.5705	Time to FIGRA _{0,2} [s] * 0
		Maximum for flow [m ³ /s]	0.6204	Time to FIGRA _{0,4} [s] * 0
		Burner response time [s]	9	Tig (2*6KW) [s] * Not reach
				* After ignition of main burner
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.8000			Synchronisation information
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.9529	End data O ₂ [%]	20.9508	T-Duct (2.5 K drop from baseline)
Baseline CO ₂ $t_{(t=30-90)}$ [%]	0.1979	End data CO ₂ [%]	0.2000	O ₂ (0.05% rise from baseline)
Baseline light signal $t_{(t=30-90)}$	98.7129	End data light signal	101.0671	CO ₂ (0.02% drop from baseline)
				Baseline Last point
				315.48 303
				20.6875 303
				0.3745 300



Mod. 38 - Rev. 6

SBI Test Report

 Laboratory: CSI S.p.A.
 Product: SEVALCON 202

		Test no.	Test date:	Print date:
		3	01/02/2017	03/02/2017
Test condition		Check points		Results
Baseline duct temp. $t_{(t=30-90)}$ [K]	294.81	HRR _{av, burner} [KW]	29.873	FIGRA threshold: 0.2 MJ [W/s] 0.0
Ambient pressure. [Pa]	101177	HRR _{std burner} [KW]	0.353	FIGRA threshold: 0.4 MJ [W/s] 0.0
Humidity [%]	30	CO ₂ /O ₂ Ratio _{burner}	0.646	THR ₆₀₀ [MJ] * 0.2
		SPR _{av, burner} [m ² /s]	0.059	Lateral flame spread (LFS) reach the edge? No
k_t	0.8600	SPR _{std burner} [m ² /s]	0.009	SMOGRA [cm ² /s ²] 0.0
k_p	1.0800			TSP ₆₀₀ [m ³] * 8.1
E' [KJ/m ²]	17200	Ambient temp. $t_{(t=30-90)}$ [K]	289.72	Flaming droplets/particles (FDP) (flaming <= 10 s)? No
Duct diameter: [m]	0.315	No. of acceptable thermocouples	3	Flaming droplets/particles (FDP) (flaming > 10 s)? No
		Minimum for flow [m ³ /s]	0.5688	Time to FIGRA _{0,2} [s] * 0
		Maximum for flow [m ³ /s]	0.6118	Time to FIGRA _{0,4} [s] * 0
		Burner response time [s]	9	Tig (2*6KW) [s] * Not reach
				* After ignition of main burner
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.7889			Synchronisation information
Baseline O ₂ $t_{(t=30-90)}$ [%]	20.9503	End data O ₂ [%]	20.9493	T-Duct (2.5 K drop from baseline)
Baseline CO ₂ $t_{(t=30-90)}$ [%]	0.1971	End data CO ₂ [%]	0.1970	Baseline Last point
Baseline light signal $t_{(t=30-90)}$	100.0909	End data light signal	99.8863	O ₂ (0.05% rise from baseline) 20.6742 303
				CO ₂ (0.02% drop from baseline) 0.3758 297

