



OVEROL IGNÍFUGO Y ANTIESTÁTICO 13 CALORIAS

REFERENCIA: LP-OV-13C

CARACTERÍSTICAS GENERALES

El overol ignífugo de algodón FR esta confeccionado con tela importada retardante y resistente al fuego, brindando seguridad y segundos vitales al operario que ayuda a proteger de quemaduras directas a la piel. Apto para protección de industrias, protección personal contra incendios repentinos, exposición a electricidad momentánea. Arco eléctrico y peligros térmicos relacionados, La cinta reflectante resistente a la llama proporciona una mayor visibilidad en condiciones de poca luz.

ESPECIFICACIONES TÉCNICAS

- Textil: CN300A -10 ONZ – 300 gramos
- Composición: 88% algodón tratado FR (fibra natural) 12% nylon de alta tenacidad y antiestático
- Protección de arco eléctrico: ATPV 13 cal/cm², Categoría 2
- Marca: Lineman Protection
- Solapa protectora a todo lo largo del cierre con broches.
- Costuras exteriores triples de encerradora y bordes fileteados internamente.
- Posee (06) bolsillos: cuatro (04) bolsillos frontales; dos (02) en la parte superior con broche y solapa, dos (02) en la parte inferior sin broche y sin solapa y dos (02) en la parte trasera.
- Fuelle de unión entre la manga y el puño.
- Ajuste elástico en la cintura.
- Cierre de broche ajustable en puños de mangas
- Cinta reflectiva resistente a la flama bicolor de 2"
- Cremallera extraíble plástica de dos vías costuras con hilo ignífugo Nomex.



TEST REPORT

2024CN0491

DATE OF RECEPTION

Date Format: dd/MM/yyyy 18/06/2024

DATE TESTS

Starting: 20/06/2024

Ending: 08/07/2024

APPLICANT

XI'AN GINTEX CO.,LTD

No.28 Tuanjie West Road, LianHu District, 710077

China

Att. Miranda

IDENTIFICATION AND DESCRIPTION OF SAMPLES

Reference by AITEX	Reference by customer	AITEX sample description
2024CN0491-S01	Gintex FRCN300A	Fabric

TESTS CARRIED OUT

- PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING.
- MASS PER UNIT AREA.
- ELECTRIC ARC EXPOSURE TEST: DETERMINATION OF THE ARC RATING (ATPV OR E_{BT50}) OF FLAME RESISTANT MATERIALS FOR CLOTHING

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Tests marked with * are not covered by ENAC accreditation



DESCRIPTION OF SAMPLES



Reference by AITEX: 2024CN0491-S01

Reference by customer:

Gintex FRCN300A

Information supplied by the customer

Composition and percentage: 88% Cotton, 12% Nylon with Antistatic

Weight: 300 gsm

Color: Navy blue

AITEX Subsamples		Subsample Description	
2024CN0491-S01_P1		FABRIC AFTER 3 CYCLES	

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EXECUTIVE SUMMARY

ASTM F1506:22	Reference	Test/Standard	Result
	2024CN0491-S01_P1	ELECTRIC ARC TEST (OPEN ARC) ASTM F1959/F1959M-23	ARC RATING (ATPV) = 13 CAL/CM ²





REQUIREMENT SUMMARY

ELECTRIC ARC TEST (OPEN ARC)

REQUIREMENT ACCORDING ASTM F1959/F1959M-23

Arc rating values below 10 cal/cm² shall be reported to the nearest 0.1 cal/cm², and arc rating values above 10 cal/cm² shall be reported to the nearest 1 cal/cm².

Arc Flash PPE category according to standard NFPA70E Edition 2021 Table 130.7 (C) (16) - Personal Protective Equipment (PPE)

PPE Category	Minimum Arc Rating (cal/cm ²)
1	4
2	8
3	25
4	40



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RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard

AATCC 135:2018

Standard deviation

Reference

Sample 1 2024CN0491-S01

Washing machine

Whirlpool

Washing temperature

49 °C

Washing cycles

3

Washing procedure

IV

Dryer machine

Whirlpool

Drying procedure

(Aiii) Tumble Dry Permanent Press

Drying temperature

68 °C

Washing powder

AATTC 1993 WOB

Start and finish date

20/06/2024 - 21/06/2024



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The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0491-S01	Gintex FRCN300A



RESULTS

MASS PER UNIT AREA

Standard

ASTM D3776/3776M-20 (R2020) Option C

Conditioning date

20/06/2024

Test date

21/06/2024

Atmosphere for conditioning testing**Temperature**

(21±1) °C

Relative humidity

(65±2) %

Number of specimens

1

Dimensions of specimens500 cm²**Reference**

2024CN0491-S01

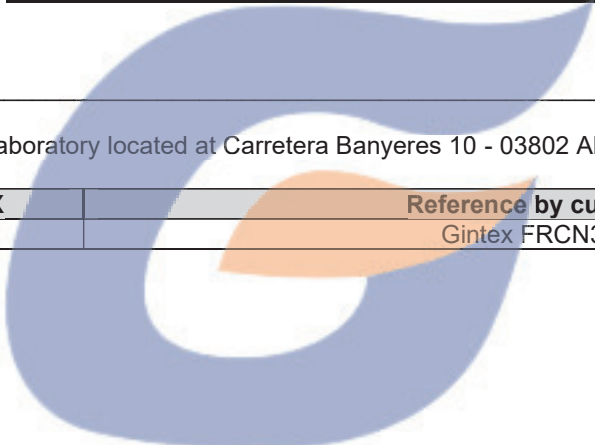
Mass per unit area (oz/yd ²)	Mass per unit area (g/m ²)
8,81	299

Remark

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The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0491-S01	Gintex FRCN300A


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RESULTS

MASS PER UNIT AREA

Standard

ASTM D3776/3776M-20 (R2020) Option C

Conditioning date

24/06/2024

Test date

25/06/2024

Atmosphere for conditioning testing**Temperature**

(21±1) °C

Relative humidity

(65±2) %

Number of specimens

1

Dimensions of specimens500 cm²**Reference**

2024CN0491-S01_P1

Mass per unit area (oz/yd ²)	Mass per unit area (g/m ²)
9,03	306

Remark

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0491-S01_P1	FABRIC AFTER 3 CYCLES



RESULTS

ELECTRIC ARC EXPOSURE TEST: DETERMINATION OF THE ARC RATING (ATPV or E_{BT50}) OF FLAME RESISTANT MATERIALS FOR CLOTHING

Standard

ASTM F1959/F1959M-23

Reference

2024CN0491-S01_P1

Test results

The test program includes minimum of twenty individual panel arc trials.

The following test data was recorded for each trial:

Arc exposure electrical conditions: arc trial number, RMS arc current, peak arc current, arc voltage, arc duration, energy dissipated in arc, plots of arc current and arc voltage.

Temperature rise response from two monitor sensors for each panel in each trial, plot of average responses from two monitor sensors.

Pictures after arc exposure.

Video.

Essential test data and test results are presented in the following pages as follows:

Arc rating: ATPV or E_{BT50} or both and plots of the burn injury probability (ATPV) or break open probability (E_{BT50}) or both versus E_i.

Heat attenuation factor (HAF) and plot of HAF on E_i.

Test specimen description and order of layer.

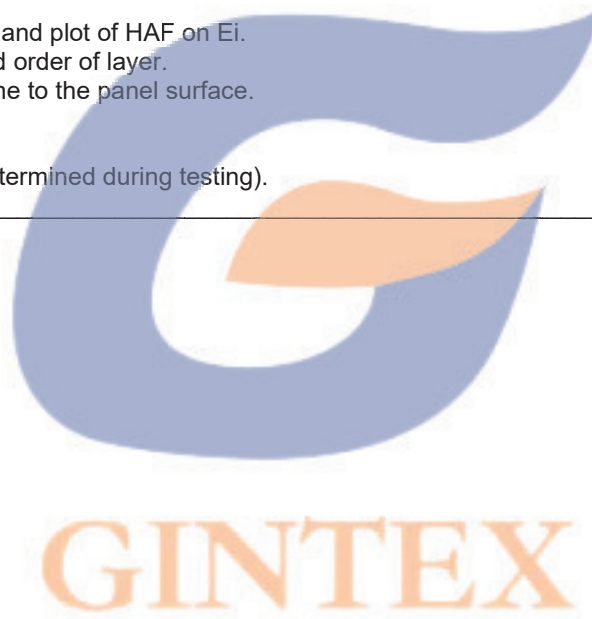
Distance from an arc center line to the panel surface.

Subjective evaluation.

Pictures after arc exposure.

Ignition probability value (if determined during testing).

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Test conditions	
Date test	08/07/2024 - 08/07/2024
Arc current	(8 ± 1) kA
Stainless steel electrodes, gap of the electrodes	(300 ± 5) mm
Distance between the electrodes and sample	(300 ± 5) mm
Fuse wire	0.5 mm
Number of samples tested	21
Starting and ending conditioning date	05/07/2024 - 08/07/2024
Conditioning	24 h; $21 \pm 2^{\circ}\text{C}$, $65 \pm 5\%$ HR.

Measurement uncertainty

$\pm 10\%$

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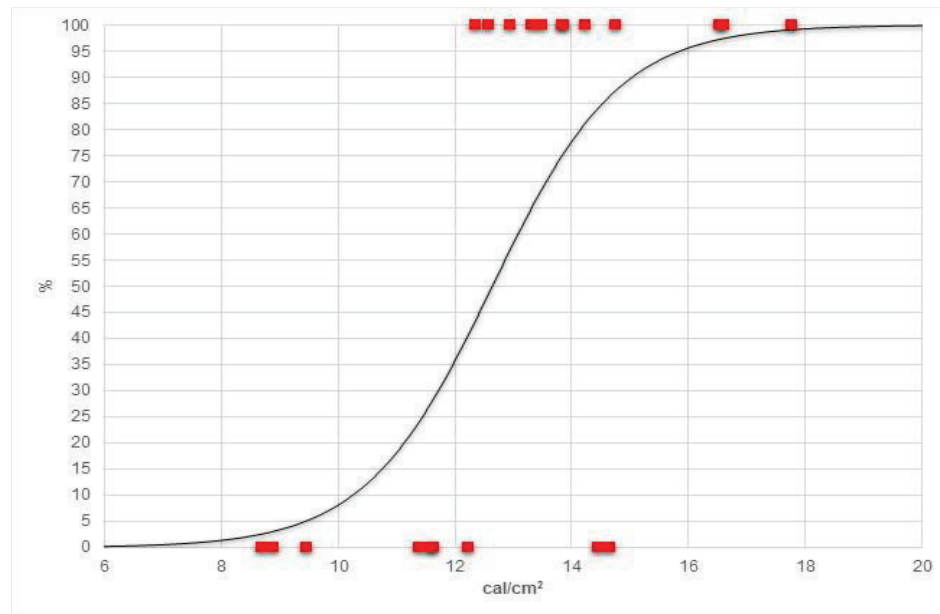


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Determination of ATPV, 50% of Probability of 2nd degree burn

ATPV	12,64 cal/cm ²
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Mix zone points above	4
ATPV points 20%	15
Mix zone points below	7
Mix zone points mix zone	10

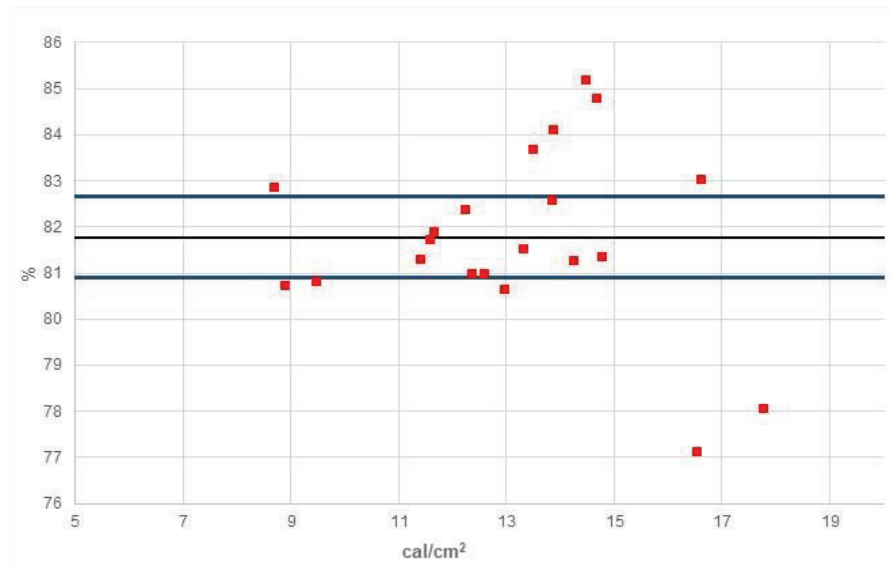
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Determination of HAF, confidence Intervals 95%

HAF	81,77 %
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% HAF value :	81,8
Upper Confidence Level %:	82,6
Lower Confidence Level %:	80,9
Points above:	6
Points below:	5
Points between:	10
Total Points:	21

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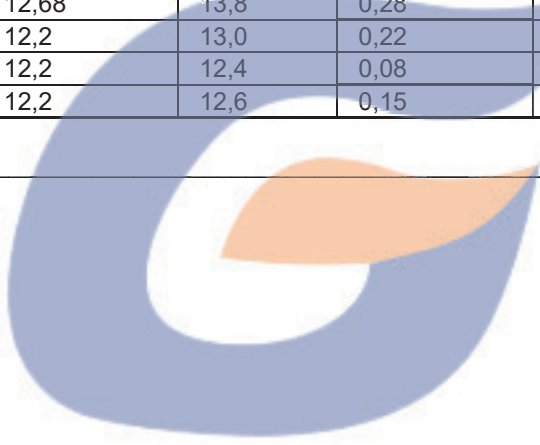
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Summary of measured energy and subjective evaluation:

Test	Time (ms)	Cycles 50Hz	Ei cal/cm ²	SCD cal/cm ²	HAF %	Burn	Break Open
1-A	173,6	8,68	8,9	-0,34	80,7	N	N
1-B	173,6	8,68	8,7	-0,46	82,9	N	N
1-C	173,6	8,68	9,5	-0,11	80,8	N	N
2-A	223,8	11,19	12,2	-0,09	82,4	N	N
2-B	223,8	11,19	14,7	-0,04	84,8	N	N
2-C	223,8	11,19	11,6	-0,02	81,9	N	N
3-A	283,8	14,19	17,8	1,88	78,1	Y	N
3-B	283,8	14,19	14,8	0,48	81,4	Y	N
3-C	283,8	14,19	16,5	1,76	77,1	Y	N
4-A	224	11,2	13,9	0,09	84,1	Y	N
4-B	224	11,2	11,4	-0,06	81,3	N	N
4-C	224	11,2	11,6	-0,04	81,7	N	N
5-A	234	11,7	14,5	-0,06	85,2	N	N
5-B	234	11,7	13,3	0,26	81,5	Y	N
5-C	234	11,7	13,5	0,08	83,7	Y	N
6-A	253,6	12,68	16,6	0,58	83,0	Y	N
6-B	253,6	12,68	14,2	0,39	81,3	Y	N
6-C	253,6	12,68	13,8	0,28	82,6	Y	N
7-A	244	12,2	13,0	0,22	80,7	Y	N
7-B	244	12,2	12,4	0,08	81,0	Y	N
7-C	244	12,2	12,6	0,15	81,0	Y	N

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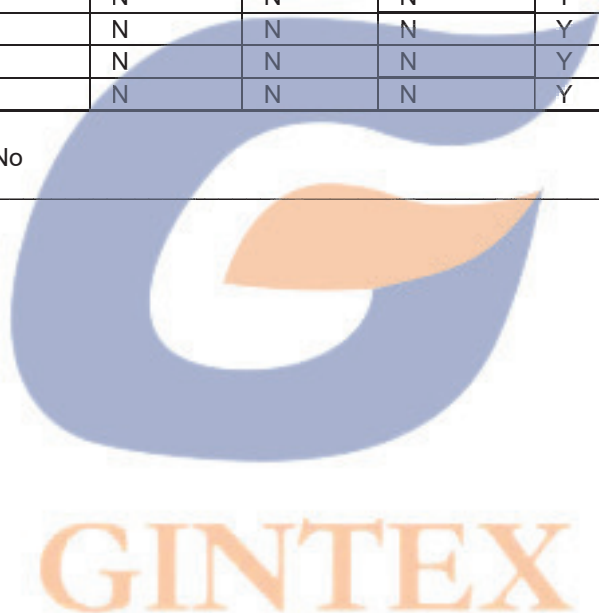


Summary of measured energy and subjective evaluation:

Test	After flame (s)	Ablation	Melting	Dripping	Charring	Embrittlement
1-A	0	N	N	N	Y	Y
1-B	0	N	N	N	Y	Y
1-C	0	N	N	N	Y	Y
2-A	0	N	N	N	Y	Y
2-B	0	N	N	N	Y	Y
2-C	0	N	N	N	Y	Y
3-A	0	N	N	N	Y	Y
3-B	0	N	N	N	Y	Y
3-C	0	N	N	N	Y	Y
4-A	0	N	N	N	Y	Y
4-B	0	N	N	N	Y	Y
4-C	0	N	N	N	Y	Y
5-A	0	N	N	N	Y	Y
5-B	0	N	N	N	Y	Y
5-C	0	N	N	N	Y	Y
6-A	0	N	N	N	Y	Y
6-B	0	N	N	N	Y	Y
6-C	0	N	N	N	Y	Y
7-A	0	N	N	N	Y	Y
7-B	0	N	N	N	Y	Y
7-C	0	N	N	N	Y	Y

Y: Yes N: No

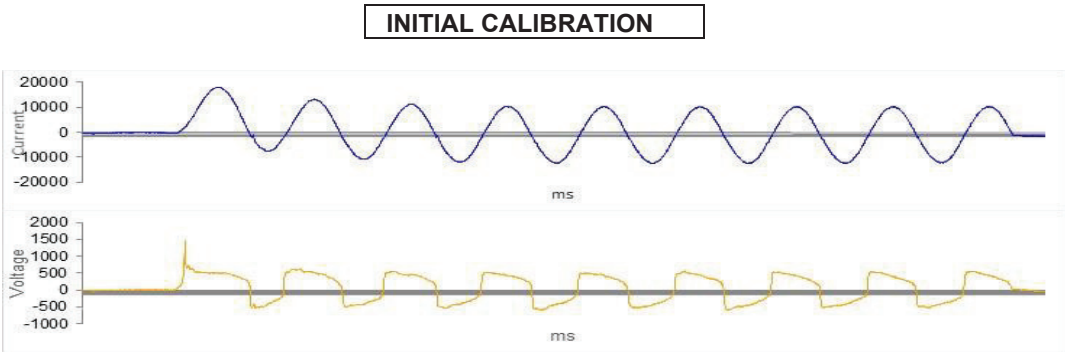
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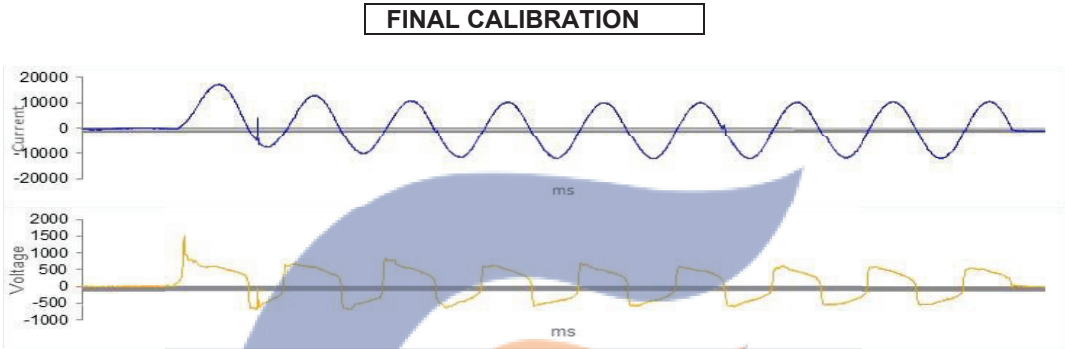


Electrical current and response sensor response:

Calibration shot



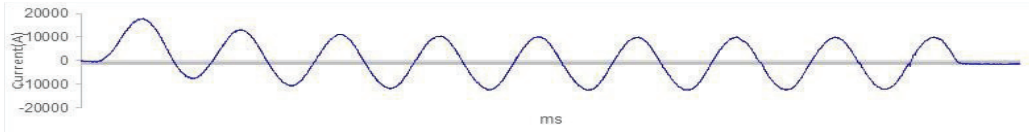
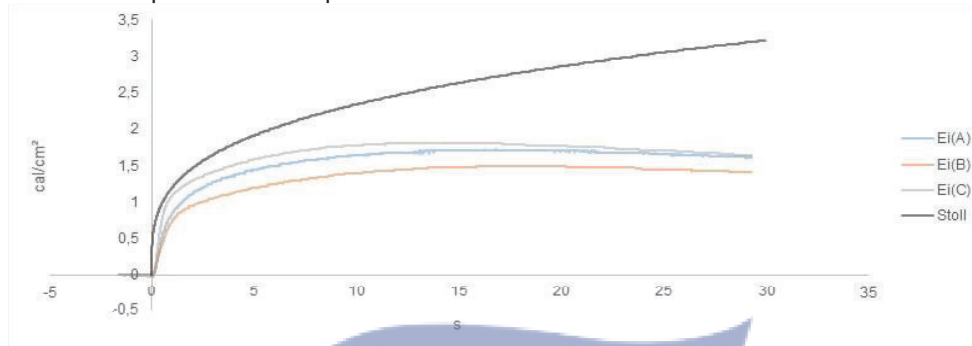
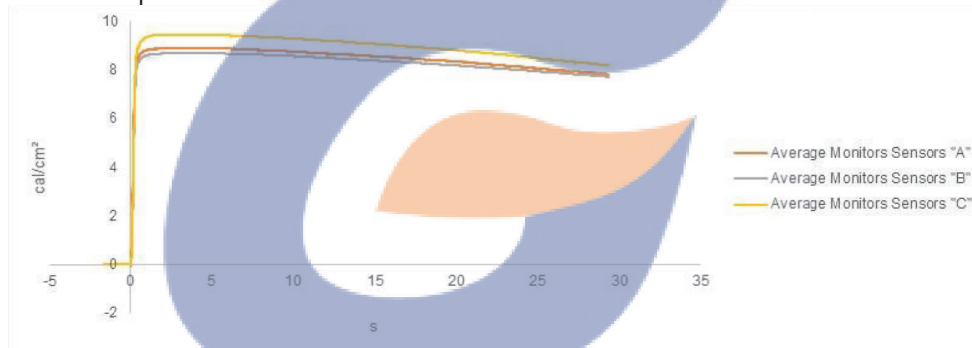
Ei Panel A	9,7 cal/cm ²	Ei Panel B	7,7 cal/cm ²	Ei Panel C	7,0 cal/cm ²
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Ei Panel A	10,4 cal/cm ²	Ei Panel B	10,1 cal/cm ²	Ei Panel C	10,1 cal/cm ²
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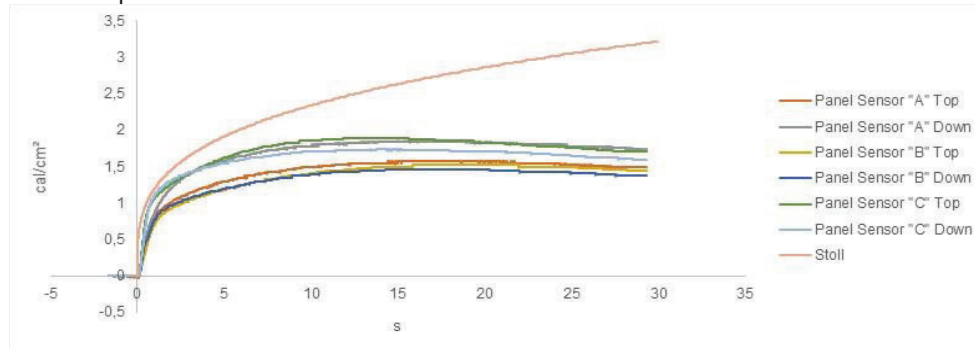
GINTEX

**Shot 1****Current Plot****Voltage Plot****Average panel sensors response Vs. Stoll plot****Average monitor sensors plot****GINTEX**

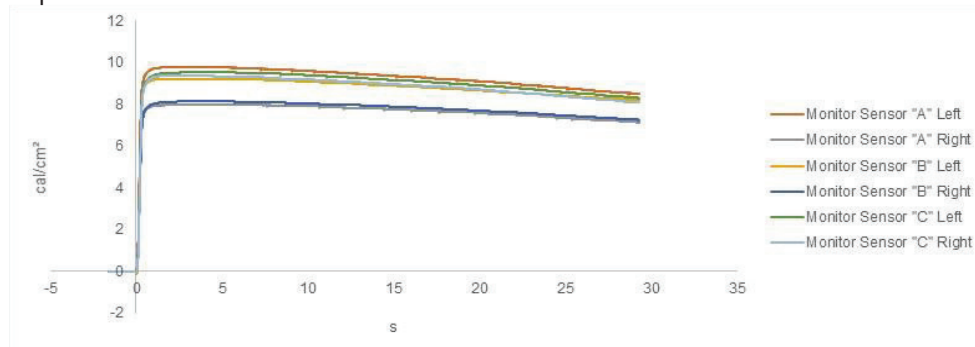


Shot 1

Panel sensors Vs. Stoll plot



Monitor sensors plot

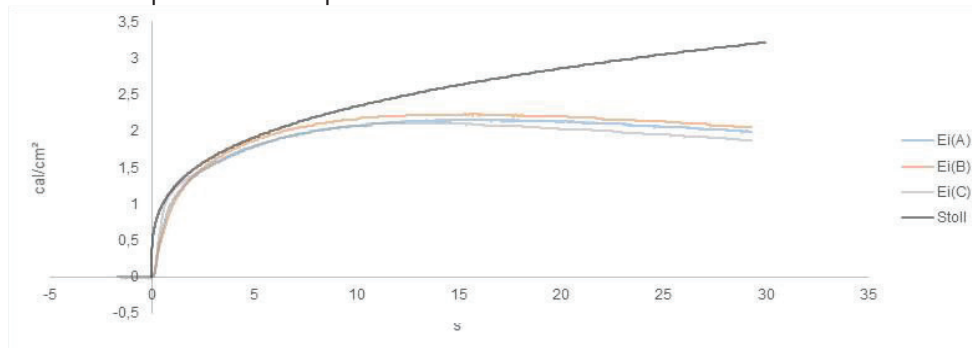
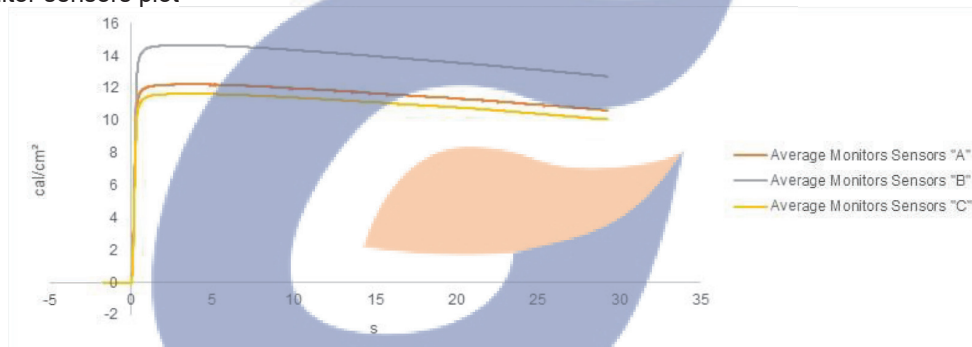


Current Total RMS (kA)	7,4	Current Peak (kA)	17,8	Arc Voltage Peak(V)	1497,0
Duration (cycles nº)	8,7	Duration (ms)	173,6	Arc Energy (kJ)	563,3
Arc Voltage (V)	459,8				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	8,90 cal/cm²	8,69 cal/cm²	9,46 cal/cm²
SCD	-0,34 cal/cm²	-0,46 cal/cm²	-0,11 cal/cm²
HAF	80,74 %	82,87 %	80,82 %

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GINTEX

**Shot 2****Current Plot****Voltage Plot****Average panel sensors response Vs. Stoll plot****Average monitor sensors plot**

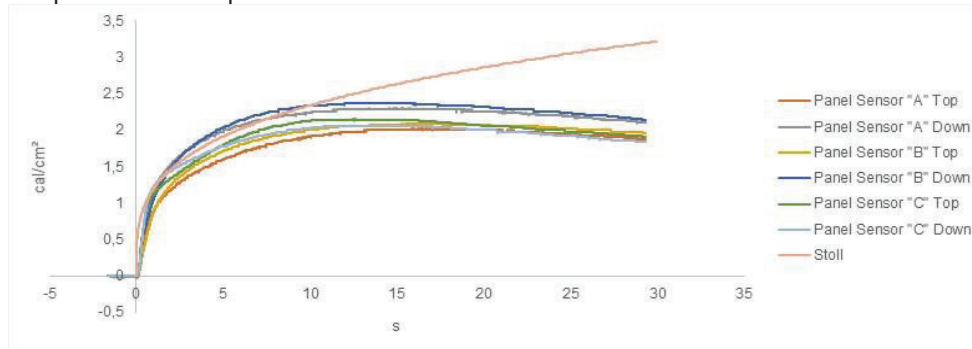
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GINTEX

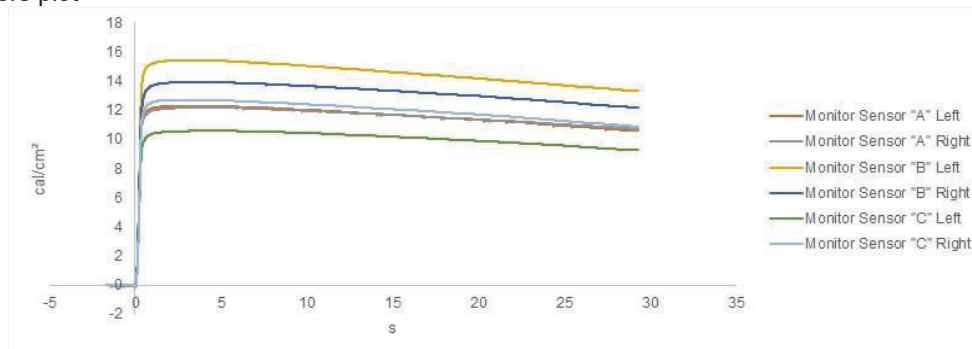


Shot 2

Panel sensors response Vs. Stoll plot



Monitor sensors plot

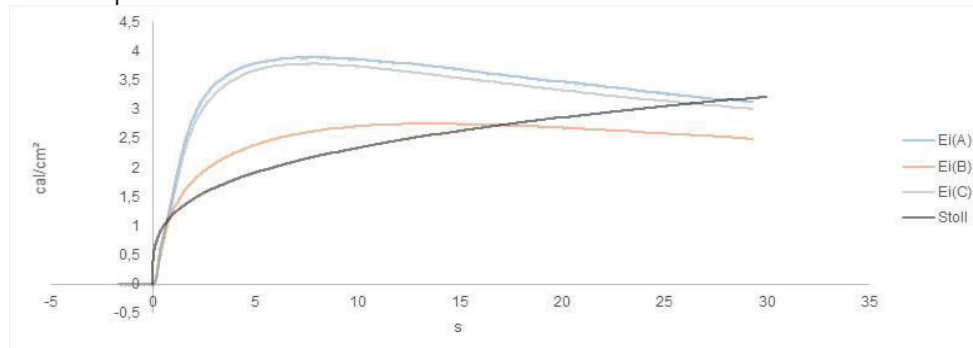
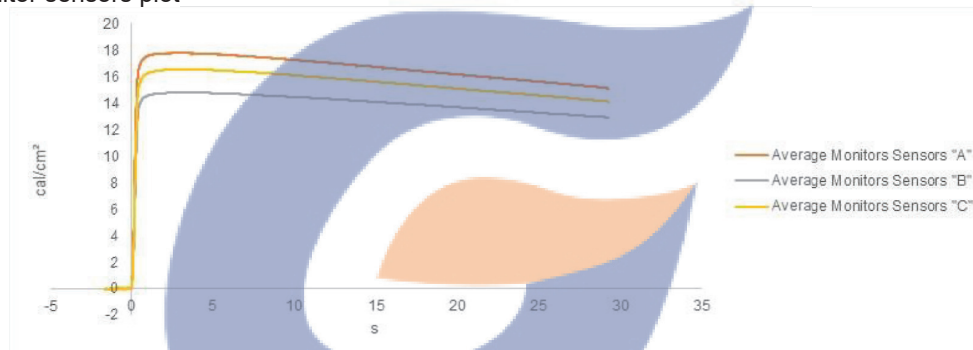


Current Total RMS (kA)	7,7	Current Peak (kA)	17,7	Arc Voltage Peak(V)	1464,0
Duration (cycles nº)	11,2	Duration (ms)	223,8	Arc Energy (kJ)	744,6
Arc Voltage (V)	475,1				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	12,24 cal/cm ²	14,67 cal/cm ²	11,65 cal/cm ²
SCD	-0,09 cal/cm ²	-0,04 cal/cm ²	-0,02 cal/cm ²
HAF	82,38 %	84,80 %	81,90 %

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GINTEX

**Shot 3****Current Plot****Voltage Plot****Panel sensors vs. Stoll plot****Average monitor sensors plot**

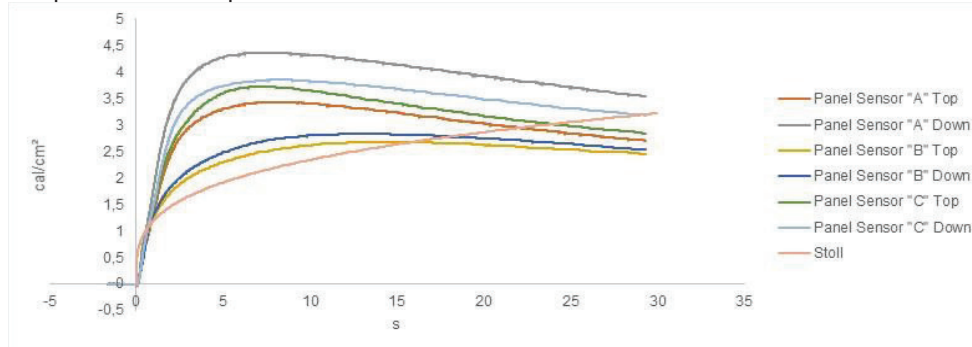
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GINTEX

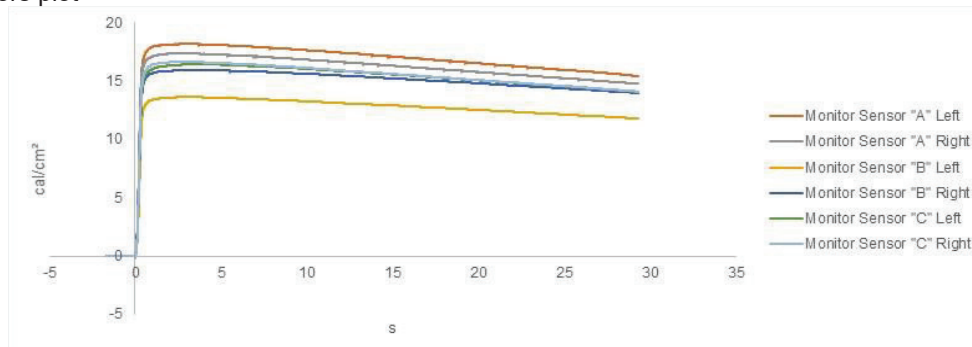


Shot 3

Panel sensors response Vs. Stoll plot



Monitor sensors plot



Current Total RMS (kA)	7,8	Current Peak (kA)	17,7	Arc Voltage Peak(V)	1479,0
Duration (cycles nº)	14,2	Duration (ms)	283,8	Arc Energy (kJ)	958,9
Arc Voltage (V)	473,3				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	17,77 cal/cm ²	14,77 cal/cm ²	16,53 cal/cm ²
SCD	1,88 cal/cm ²	0,48 cal/cm ²	1,76 cal/cm ²
HAF	78,06 %	81,37 %	77,13 %

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GINTEX

**Shot 4**

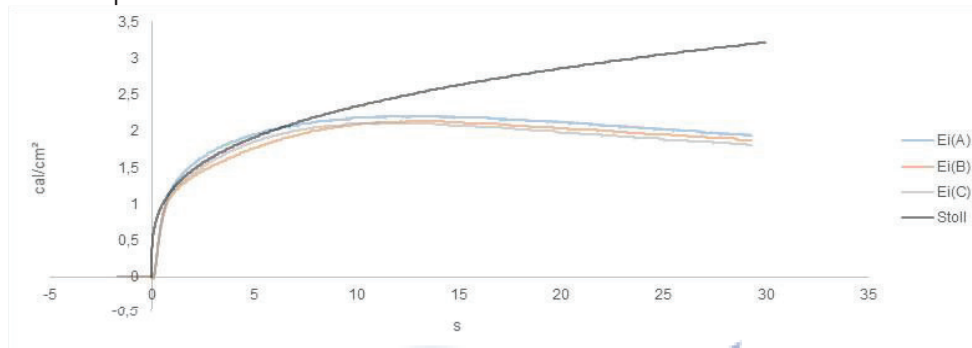
Current Plot



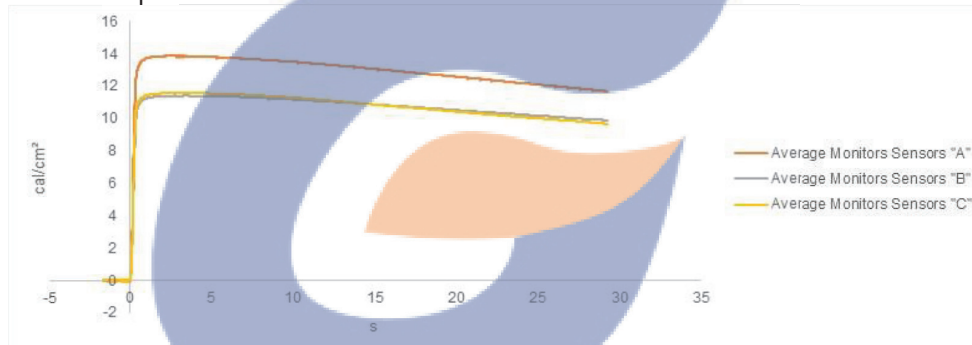
Voltage Plot



Panel sensors vs. Stoll plot



Average monitor sensors plot



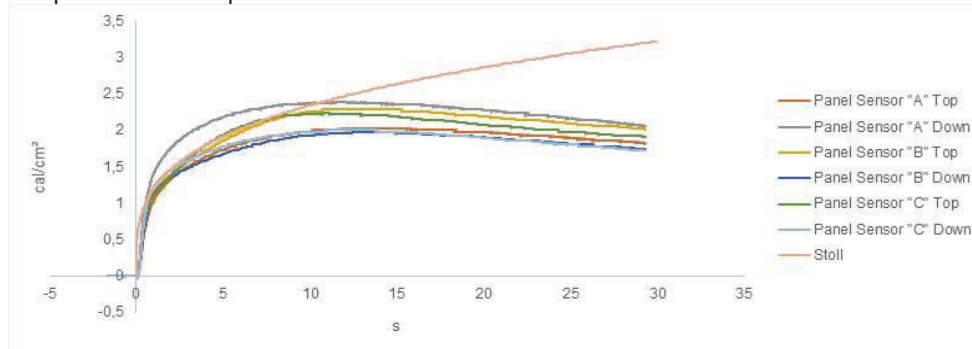
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GINTEX

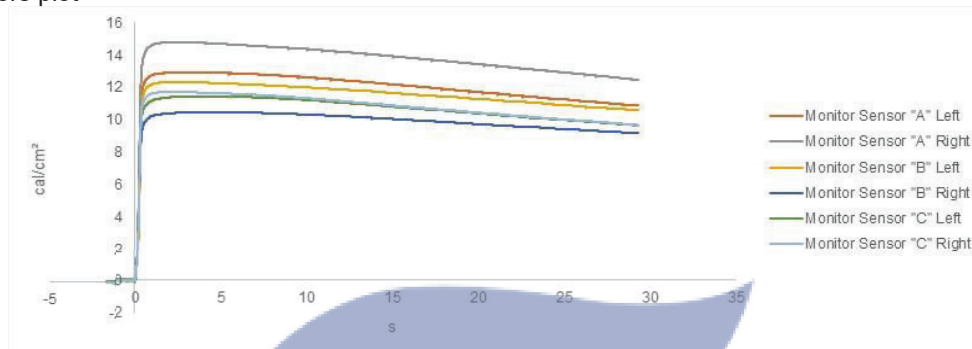


Shot 4

Panel sensors response Vs. Stoll plot



Monitor sensors plot

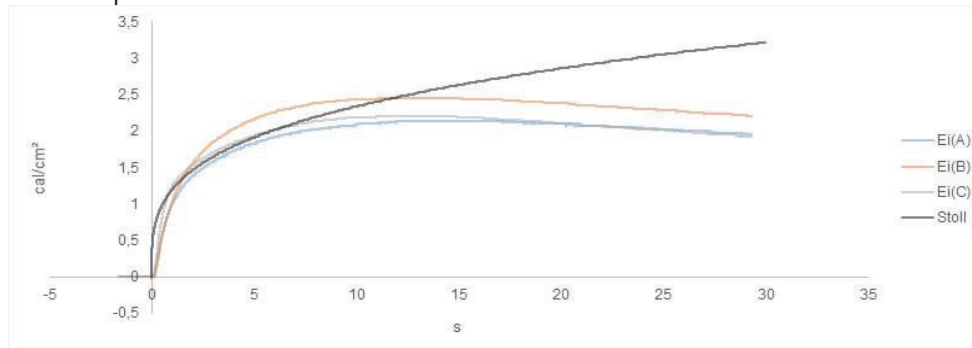
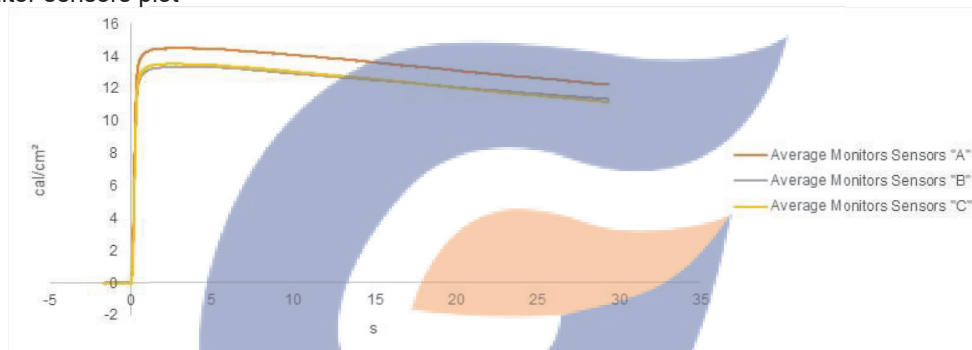


Current Total RMS (kA)	7,8	Current Peak (kA)	17,8	Arc Voltage Peak(V)	1500,0
Duration (cycles nº)	11,2	Duration (ms)	224,0	Arc Energy (kJ)	750,4
Arc Voltage (V)	465,2				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	13,87 cal/cm ²	11,40 cal/cm ²	11,58 cal/cm ²
SCD	0,09 cal/cm ²	-0,06 cal/cm ²	-0,04 cal/cm ²
HAF	84,11 %	81,31 %	81,73 %

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GINTEX

**Shot 5****Current Plot****Voltage Plot****Panel sensors vs. Stoll plot****Average monitor sensors plot**

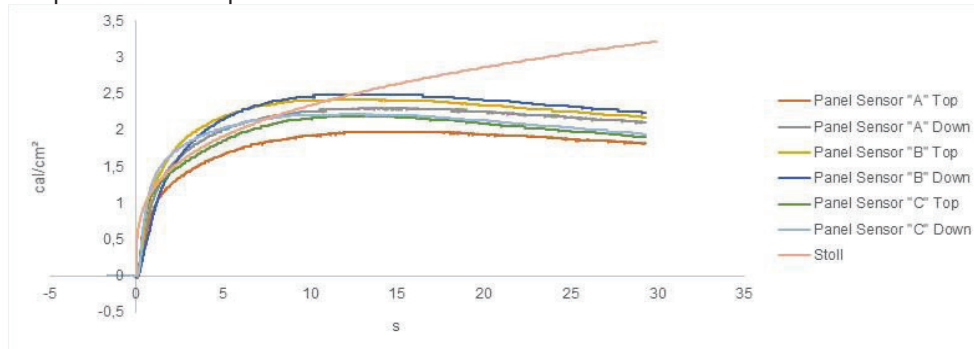
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GINTEX

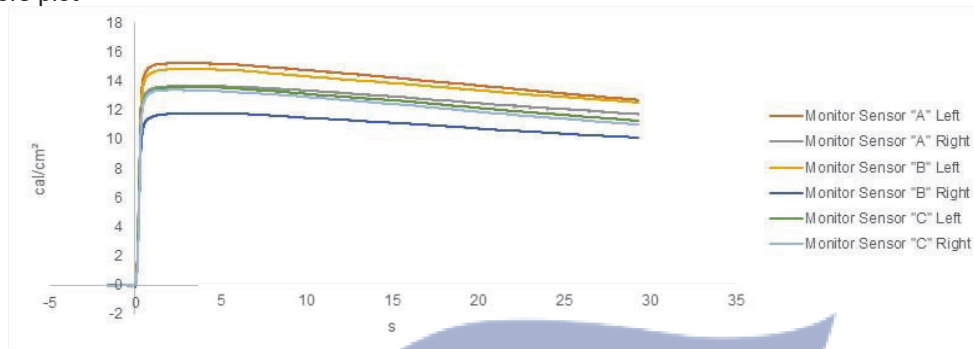


Shot 5

Panel sensors response Vs. Stoll plot



Monitor sensors plot

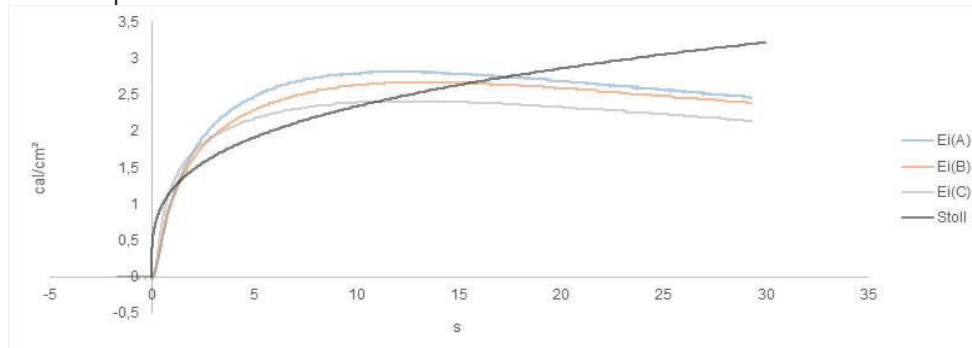
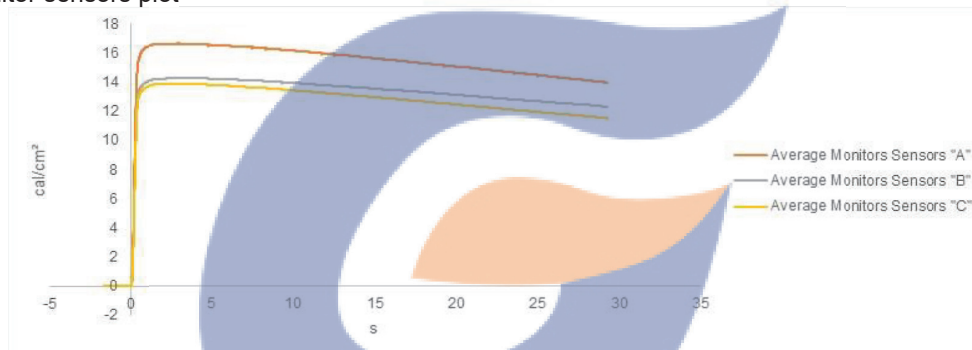


Current Total RMS (kA)	7,6	Current Peak (kA)	17,4	Arc Voltage Peak(V)	1470,0
Duration (cycles nº)	11,7	Duration (ms)	234,0	Arc Energy (kJ)	734,5
Arc Voltage (V)	450,8				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	14,47 cal/cm ²	13,31 cal/cm ²	13,50 cal/cm ²
SCD	-0,06 cal/cm ²	0,26 cal/cm ²	0,08 cal/cm ²
HAF	85,19 %	81,54 %	83,69 %

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GINTEX

**Shot 6****Current Plot****Voltage Plot****Panel sensors vs. Stoll plot****Average monitor sensors plot**

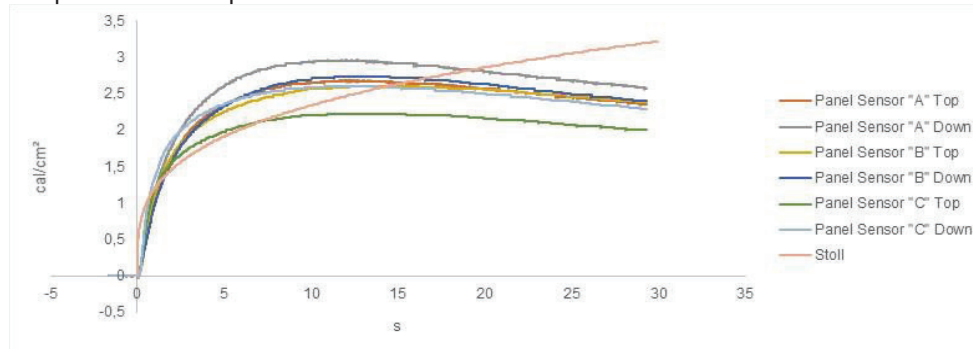
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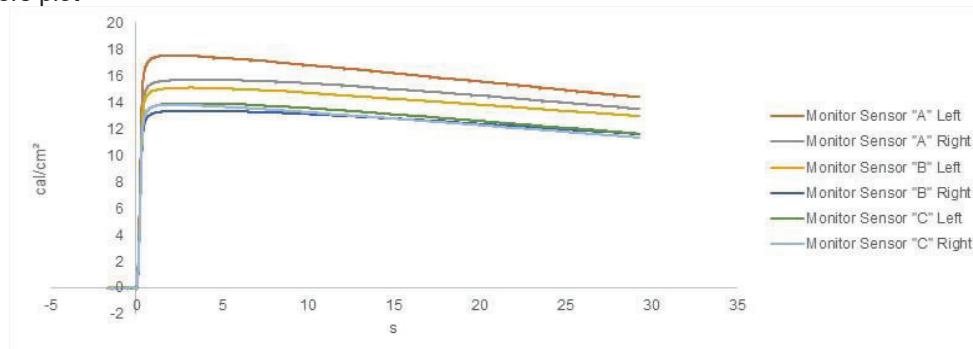


Shot 6

Panel sensors response Vs. Stoll plot



Monitor sensors plot

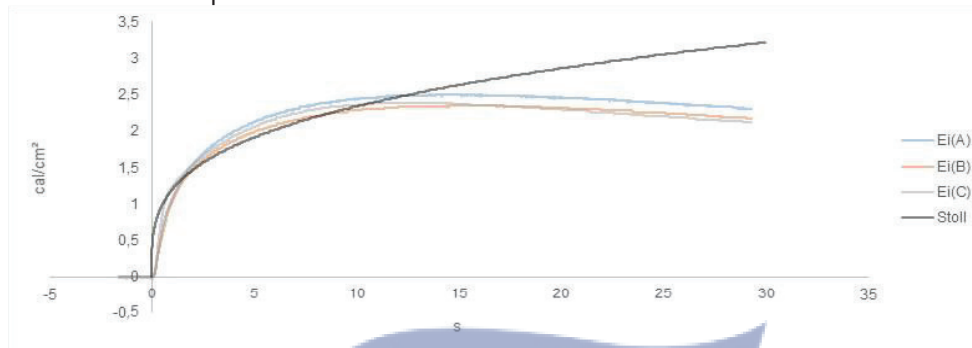
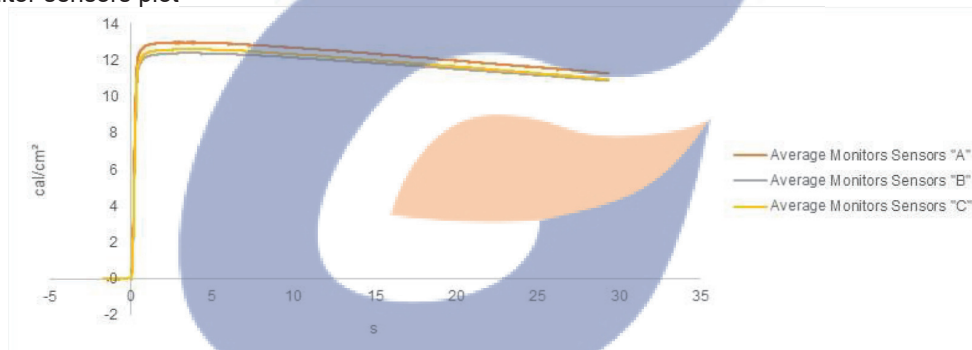


Current Total RMS (kA)	7,7	Current Peak (kA)	17,8	Arc Voltage Peak(V)	1506,0
Duration (cycles nº)	12,7	Duration (ms)	253,7	Arc Energy (kJ)	896,0
Arc Voltage (V)	490,8				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	16,61 cal/cm ²	14,24 cal/cm ²	13,85 cal/cm ²
SCD	0,58 cal/cm ²	0,39 cal/cm ²	0,28 cal/cm ²
HAF	83,02 %	81,28 %	82,59 %

>>>

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**Shot 7****Current Plot****Voltage Plot****Average panel sensors vs. Stoll plot****Average monitor sensors plot**

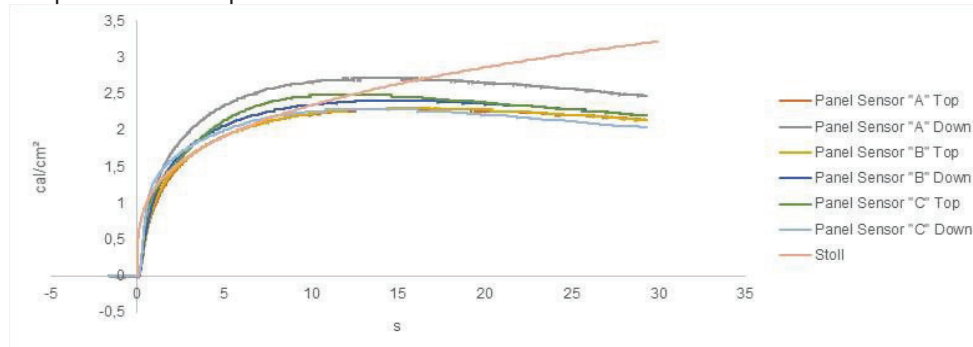
>>>

GINTEX

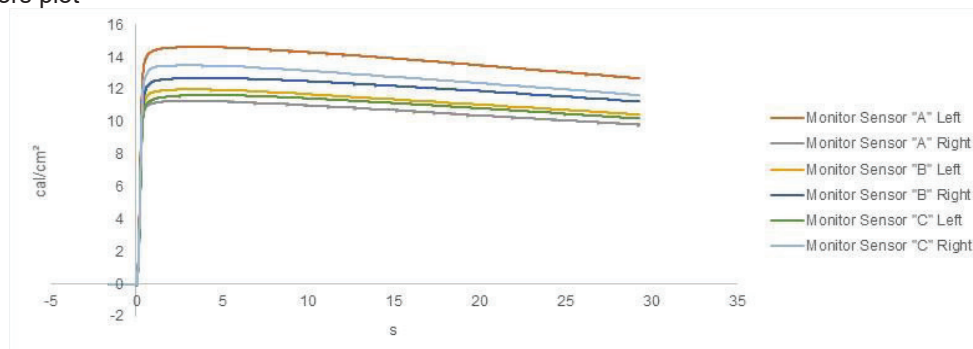


Shot 7

Panel sensors response Vs. Stoll plot



Monitor sensors plot



Current Total RMS (kA)	8,0	Current Peak (kA)	18,0	Arc Voltage Peak(V)	1437,0
Duration (cycles nº)	12,2	Duration (ms)	244,0	Arc Energy (kJ)	741,4
Arc Voltage (V)	417,6				

Sensor response	PANEL A	PANEL B	PANEL C
Ei	12,96 cal/cm ²	12,36 cal/cm ²	12,58 cal/cm ²
SCD	0,22 cal/cm ²	0,08 cal/cm ²	0,15 cal/cm ²
HAF	80,66 %	80,98 %	81,00 %

>>>

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Tested material pictures:

Original

Shot 1

Shot 2



Shot 3

Shot 4

Shot 5



Shot 6

Shot 7



>>>



**Summary of results:**

ATPV	12,64 cal/cm ²
HAF	81,77 %

FABRIC TESTED ACCORDING TO THE STANDARD ASTM F1959/F1959M-23
ARC RATING (ATPV)
13 cal/cm²

Remark

The test was carried out at: AITEX - Electric open arc laboratory, located at Polígono Industrial Fuente del Jarro. C/
Ciudad de Gibraltar, 5; 46988 – Paterna (Valencia)

///

Reference by AITEX	Reference by customer
2024CN0491-S01_P1	FABRIC AFTER 3 CYCLES





Lucia Martinez
Head of PPE and Ballistics department



Date: 11/07/2024 8:44:22

Digitally Signed by: ISABEL LLOPIS LUMBRERAS -

NIF: 21678551Q

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- 14.- The client must attend at all times, to the dates of the realization of the tests.
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- 17.- The tests have been carried out at the Alcoy plant with the address described on the first page of the report, unless another location is indicated in the results sheet of the specific test.

TEST REPORT

2024CN0501

DATE OF RECEPTION

Date Format: dd/MM/yyyy 18/06/2024

DATE TESTS

Starting: 19/06/2024

Ending: 17/07/2024

APPLICANT

XI'AN GINTEX CO.,LTD

No.28 Tuanjie West Road, LianHu District, 710077

China

Att. Miranda

IDENTIFICATION AND DESCRIPTION OF SAMPLES

Reference by AITEX	Reference by customer	AITEX sample description
2024CN0501-S01	Gintex FRCN300A	Fabric

TESTS CARRIED OUT

- PRE-TREATMENT FOR NFPA 2112 WASHING AND DRYING PROCEDURE.
- HEAT TRANSFER EVALUATION OF FLAME RESISTANT MATERIALS.
- LIMITED FLAME SPREAD.
- DETERMINATION OF HEAT RESISTANCE 260°C.
- MASS PER UNIT AREA.
- PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING.
- DETERMINATION OF DIMENSIONAL CHANGE IN DOMESTIC WASHING AND DRYING.

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Tests marked with * are not included within the scope of the ENAC accreditation.



**DESCRIPTION OF SAMPLES**

Reference by AITEX: 2024CN0501-S01

Reference by customer:

Gintex FRCN300A

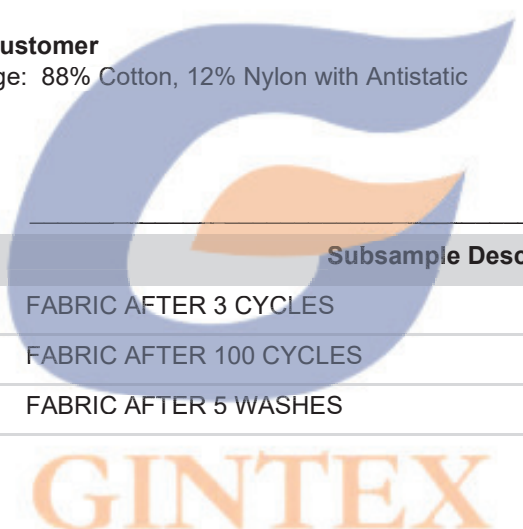
Information supplied by the customer

Composition and percentage: 88% Cotton, 12% Nylon with Antistatic

Weight: 300 gsm

Color: Navy blue

AITEX Subsamples	Subsample Description
2024CN0501-S01_P1	FABRIC AFTER 3 CYCLES
2024CN0501-S01_P2	FABRIC AFTER 100 CYCLES
2024CN0501-S01_P3	FABRIC AFTER 5 WASHES


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EXECUTIVE SUMMARY

NFPA 2112:2023	Reference	Test/Standard	Result
	2024CN0501-S01 + 2024CN0501-S01_P2	LIMITED FLAME SPREAD ASTM D 6413/D 6413M:2022	PASS
	2024CN0501-S01 + 2024CN0501-S01_P1	HEAT TRANSFER EVALUATION OF FLAME RESISTANT MATERIALS ASTM F2700-2020; NFPA 2112:2023 sec.8.2	PASS
	2024CN0501-S01 + 2024CN0501-S01_P1	DETERMINATION OF HEAT RESISTANCE 260°C ASTM F2894:2021	PASS
	2024CN0501-S01_P3	DETERMINATION OF DIMENSIONAL CHANGE IN DOMESTIC WASHING AND DRYING AATCC TM 135:2018T	PASS





REQUIREMENT SUMMARY

LIMITED FLAME SPREAD

REQUIREMENT ACCORDING NFPA 2112:2023

- No specimen shall give flaming or molten debris.
- The mean value of after flame time shall be ≤ 2 s.
- The average of the char length values shall be ≤ 100 mm.

DETERMINATION OF HEAT RESISTANCE 260°C

REQUIREMENT ACCORDING NFPA 2112:2023

Fabric

No layer can melt and/or drip.

At 260°C not layer shrink by more than 10%.

Not layer must ignite.

Hardware

No hardware/strip/seam shall ignite or melt

Closures opens

HEAT TRANSFER EVALUATION (TPP/HTP)

Requirements to be met according to NFPA 2112:2023 sec.7.1.1

The spaced HTP rating shall be not less than 25 J/cm^2 ($6,0 \text{ cal/cm}^2$) and a contact HTP rating shall not be less than 12.6 J/cm^2 ; ($3,0 \text{ cal/cm}^2$)





RESULTS

PRE-TREATMENT FOR NFPA 2112 WASHING AND DRYING PROCEDURE

Standard

NFPA 2112:2023 pto.8.1.3

Test date**Start date**

21/06/2024

End date

09/07/2024

Washing procedure

Normal

Washing cycles

100

Drying procedure

Tumble dryer

Washing powder

Tergitol 15-S-9 13157N12 + Sodium Metasilicate 13158N12 + Sodium Tripolyphosphate 13206N12 + Sodium Silicofluoride 13245N12

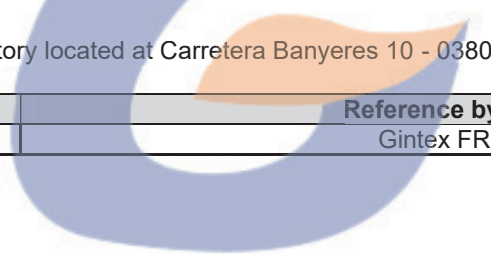
Reference

2024CN0501-S01

Units	Dry mass of the samples(Kg)	Counterweight mass(Kg)	Counterweight type	Equipment
1	0.44	8.56	Type III	WASCATOR

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A


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RESULTS

PRE-TREATMENT FOR NFPA 2112 WASHING AND DRYING PROCEDURE

Standard

NFPA 2112:2023 pto.8.1.3

Test date**Start date**

21/06/2024

End date

21/06/2024

Washing procedure

Normal

Washing temperature

66°C

Washing cycles

3

Dryer type

Tecnitramo

Drying procedure

Tumble dryer

Drying temperature

68°C

Washing powder

Tergitol 15-S-9 13157N12 + Sodium Metasilicate 13158N12 + Sodium Tripolyphosphate 13206N12 + Sodium Silicofluoride 13245N12

Reference

2024CN0501-S01

Units	Dry mass of the samples(Kg)	Counterweight mass(Kg)	Counterweight type	Equipment
1	0.82	8.2	Type II	TECNITRAMO

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A



RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard

AATCC TM 135:2018T

Test date**Start date**

15/07/2024

End date

16/07/2024

Washing procedure

IV

Washing temperature

49°C

Washing cycles

5

Dryer type

Whirlpool

Drying procedure

(Aiii) Tumble Dry Permanent Press

Drying temperature

68°C

Washing powder

AATC 1993 WOB

Reference

2024CN0501-S01

Equipment

LABTEX



The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A



RESULTS

HEAT TRANSFER EVALUATION OF FLAME RESISTANT MATERIALS

Standard

ASTM F2700-2020; NFPA 2112:2023 sec.8.2

Apparatus

Thermal Protective Performance Tester

Conditioning date

19/06/2024

Test date

25/06/2024

Conditioned

24h in indoor ambient conditions at (21 ± 2) °C and (65 ± 5) % RH

Sample layers

1

Sample description

Navy blue woven fabric

Radiant incident heat flux

10,31 kW/m²

Total incident heat flux

82,34 kW/m²

Specimen mounting

Relaxed

Weight of material as tested

296 g/m²



**Reference**

2024CN0501-S01

Position of the sensor to the specimen

Contact

Specimen	HTP (J/cm ²)	TPP (cal/cm ²)
1	40,56	9,69
2	38,78	9,26
3	41,16	9,83
Average	40,17	9,59

Visual examination and evaluation

Property	1	2	3
Melting	No.	No.	No.
Dripping	No.	No.	No.
Break open	No.	No.	No.
Charring	Slight, evident charring.	Slight, discoloration.	Slight, evident charring.
Embrittlement	Moderate, small hardened areas.	Slight, starts to harden.	Moderate, small hardened areas.
Ignition	Moderate, dark smoke.	Moderate, dark smoke.	Moderate, dark smoke.
Shrinkage	No.	No.	No.
Sticking	No.	No.	No.



**Reference**

2024CN0501-S01

Position of the sensor to the specimen

Spaced

Specimen	HTP (J/cm ²)	TPP (cal/cm ²)
1	42,15	10,07
2	41,87	10,00
3	42,50	10,15
Average	42,17	10,07

Visual examination and evaluation

Property	1	2	3
Melting	No.	No.	No.
Dripping	No.	No.	No.
Break open	No.	No.	No.
Charring	Slight, evident charring.	Slight, evident charring.	Slight, evident charring.
Embrittlement	Moderate, small hardened areas.	Moderate, small hardened areas.	Moderate, small hardened areas.
Ignition	Significant, thick blackish smoke.	Significant, thick blackish smoke.	Significant, thick blackish smoke.
Shrinkage	No.	No.	No.
Sticking	No.	No.	No.

Remark

The uncertainty of the assay of Thermal Protective Performance is $\pm 8,3\%$ of the value measured, for a coverage factor of K=2 [95%].

Remark

These results have been obtained by means of a test method intended solely to classify the set of materials and materials not necessarily applicable to the actual conditions of fire or inflammation.

PASS

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A



RESULTS

HEAT TRANSFER EVALUATION OF FLAME RESISTANT MATERIALS

Standard

ASTM F2700-2020; NFPA 2112:2023 sec.8.2

Apparatus

Thermal Protective Performance Tester

Conditioning date

24/06/2024

Test date

25/06/2024

Conditioned

24h in indoor ambient conditions at (21 ± 2) °C and (65 ± 5) % RH

Sample layers

1

Sample description

Navy blue woven fabric

Radiant incident heat flux

10,31 kW/m²

Total incident heat flux

82,34 kW/m²

Specimen mounting

Relaxed

Weight of material as tested

303 g/m²



**Reference**

2024CN0501-S01_P1

Position of the sensor to the specimen

Contact

Specimen	HTP (J/cm ²)	TPP (cal/cm ²)
1	40,79	9,74
2	42,19	10,08
3	41,66	9,95
Average	41,55	9,92

Visual examination and evaluation

Property	1	2	3
Melting	No.	No.	No.
Dripping	No.	No.	No.
Break open	No.	No.	No.
Charring	Slight, evident charring.	Slight, discoloration.	Slight, evident charring.
Embrittlement	Moderate, small hardened areas.	Slight, starts to harden.	Moderate, small hardened areas.
Ignition	Moderate, dark smoke.	Moderate, dark smoke.	Moderate, dark smoke.
Shrinkage	No.	No.	No.
Sticking	No.	No.	No.



**Reference**

2024CN0501-S01_P1

Position of the sensor to the specimen

Spaced

Specimen	HTP (J/cm ²)	TPP (cal/cm ²)
1	45,39	10,84
2	44,58	10,65
3	47,67	11,38
Average	45,88	10,96

Visual examination and evaluation

Property	1	2	3
Melting	No.	No.	No.
Dripping	No.	No.	No.
Break open	No.	No.	No.
Charring	Slight, evident charring.	Slight, evident charring.	Slight, evident charring.
Embrittlement	Moderate, small hardened areas.	Moderate, small hardened areas.	Moderate, small hardened areas.
Ignition	Significant, thick blackish smoke.	Significant, thick blackish smoke.	Significant, thick blackish smoke.
Shrinkage	No.	No.	No.
Sticking	No.	No.	No.

Remark

The uncertainty of the assay of Thermal Protective Performance is $\pm 8,3\%$ of the value measured, for a coverage factor of K=2 [95%].

Remark

These results have been obtained by means of a test method intended solely to classify the set of materials and materials not necessarily applicable to the actual conditions of fire or inflammation.

PASS

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01_P1	FABRIC AFTER 3 CYCLES



RESULTS

LIMITED FLAME SPREAD

Standard

ASTM D 6413/D 6413M:2022

Test date

Start date

19/06/2024

End date

25/06/2024

Ambient test conditions

Face exposed to the flame

Edge

Specimen size

76 mm x 300 mm

Flame contact time

12 s

Reference

2024CN0501-S01

Test date

Start date

19/06/2024

End date

25/06/2024

Atmosphere for testing

Temperature

21,7 °C

Relative Humidity

57,8 %

Specimen	After flame time(s)	Afterglow time (s)	Melting and Dripping	Char lenght
1	0	1.2	NO	91
2	0	0.8	NO	92
3	0	0.9	NO	77
4	0	0.8	NO	80
5	0	0.9	NO	77
Average	0	0.92	NO	83.4

Orientation of the specimen : Weft

Specimen	After flame time (s)	Afterglow time (s)	Melting and Dripping	Char lenght
1	0	1.1	NO	78
2	0	1	NO	68
3	0	0.9	NO	65
4	0	1.1	NO	81
5	0	0.9	NO	73
Average	0	1.00	NO	73

Uncertainty

The uncertainty of the assay of flame resistance of textiles (vertical test) is $\pm 2\%$ of the value measured

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A



RESULTS

LIMITED FLAME SPREAD

Standard

ASTM D 6413/D 6413M:2022

Test date

Start date

09/07/2024

End date

10/07/2024

Ambient test conditions

Face exposed to the flame

Edge

Specimen size

76 mm x 300 mm

Flame contact time

12 s

Reference

2024CN0501-S01_P2

Test date

Start date

09/07/2024

End date

10/07/2024

Atmosphere for testing

Temperature

21,7 °C

Relative Humidity

54,7 %

Specimen	After flame time(s)	Afterglow time (s)	Melting and Dripping	Char lenght
1	0	0.7	NO	92
2	0	0.8	NO	86
3	0	1	NO	66
4	0	0.9	NO	64
5	0	1.1	NO	85
Average	0	0.90	NO	78.6

Orientation of the specimen : Weft

Specimen	After flame time (s)	Afterglow time (s)	Melting and Dripping	Char lenght
1	0	0.9	NO	81
2	0	1.2	NO	72
3	0	1	NO	63
4	0	1.2	NO	77
5	0	1.1	NO	69
Average	0	1.08	NO	72.4

Uncertainty

The uncertainty of the assay of flame resistance of textiles (vertical test) is $\pm 2\%$ of the value measured

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01_P2	FABRIC AFTER 100 CYCLES



RESULTS

DETERMINATION OF HEAT RESISTANCE 260°C

Standard

ASTM F2894:2021

Equipment

Air stove

Test date**Start date**

19/06/2024

End date

24/06/2024

Temperature

(260 ± 5)°C

Length of the test

5 min (+0,15/-0) min

Uncertainty

± 8 %

Reference

2024CN0501-S01

Ignition	Melting	Direction	Shrink(-) Elongation(+)
NO	NO	Warp	-2%
		Weft	-1%
NO	NO	Warp	-1%
		Weft	-1%
NO	NO	Warp	-1%
		Weft	-1%

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A



RESULTS

DETERMINATION OF HEAT RESISTANCE 260°C

Standard

ASTM F2894:2021

Equipment

Air stove

Test date**Start date**

24/06/2024

End date

25/06/2024

Temperature

(260 ± 5)°C

Length of the test

5 min (+0,15/-0) min

Uncertainty

± 8 %

Reference

2024CN0501-S01_P1

Ignition	Melting	Direction	Shrink(-) Elongation(+)
NO	NO	Warp	-1%
		Weft	-1%
NO	NO	Warp	-1%
		Weft	-1%
NO	NO	Warp	-1%
		Weft	0%

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01_P1	FABRIC AFTER 3 CYCLES



RESULTS

MASS PER UNIT AREA

Standard

ASTM D3776/3776M-20 (R2020) Option C

Conditioning date 20/06/2024 **Test date** 21/06/2024**Atmosphere for conditioning testing****Temperature** (21±1) °C **Relative humidity** (65±2) %**Number of specimens**

1

Dimensions of specimens500 cm²**Reference**

2024CN0501-S01

Mass per unit area (oz/yd ²)	Mass per unit area (g/m ²)
8,77	297

Remark

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01	Gintex FRCN300A

GINTEX



RESULTS

MASS PER UNIT AREA

Standard

ASTM D3776/3776M-20 (R2020) Option C

Conditioning date 09/07/2024 **Test date** 10/07/2024**Atmosphere for conditioning testing****Temperature** (21±1) °C **Relative humidity** (65±2) %**Number of specimens**

1

Dimensions of specimens500 cm²**Reference**

2024CN0501-S01_P2

Mass per unit area (oz/yd ²)	Mass per unit area (g/m ²)
8,67	294

Remark

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01_P2	FABRIC AFTER 100 CYCLES





RESULTS

DETERMINATION OF DIMENSIONAL CHANGE IN DOMESTIC WASHING AND DRYING

Standard

AATCC 135:2018

Starting test date

19/06/2024

Ending test date

17/07/2024

Size of specimens and benchmarks

Option 1 - Samples of 380 x 380 mm and benchmarks of 250 mm.

Number of washing cycles

5

Uncertainty of test (% of the measured value)

± 0.4 %

Original samples had no wrinkles, were not distorted, not used, ironing or restored in any way.

Reference	Number of specimens	Direction	Dimensional change (%)
2024CN0501-S01_P3	3	Warp	-3,0 %
		Weft	-1,4 %

Remark

Negative dimensional change indicates shrinkage

Positive dimensional change indicates lengthening

The test was carried out at laboratory located at Carretera Banyeres 10 - 03802 Alcoi, Alicante

Reference by AITEX	Reference by customer
2024CN0501-S01_P3	FABRIC AFTER 5 WASHES



Lucia Martinez
Head of PPE and Ballistics department



Date: 17/07/2024 10:54:47

Digitally Signed by: ISABEL LLOPIS LUMBRERAS -

NIF: 21678551Q

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- 4.- In the eventuality of discrepancies between reports, a check to settle the same will be carried out in the head offices of AITEX. Also, the applicants undertake to notify AITEX of any complaint received by them as a result of the report, exempting this Centre from all liability if such is not done, the periods of conservation of the samples being taken into account.
- 5.- AITEX will provide at the request of the person concerned, the treatment of complaints procedure. In the event that you want to make it, direct it to: calidad@aitex.es.
- 6.- AITEX is not responsible for the information provided by customers, which is reflected in the Report, and may affect the validity of the results. The information provided by the client is not covered by the scope of ENAC accreditation.
- 7.- AITEX is not responsible for an inadequate state of the sample received that could compromise the validity of the results, expressing such circumstance, in the test reports.
- 8.- AITEX may include in its reports, analyses, results, etc., any other evaluation which it considers necessary, even when it has not been specifically requested.
- 9.- When a Declaration of Conformity is requested, if not indicated otherwise, the decision rule according to ILAC-G8: 2009 will be applied with a security zone of 1U and a Probability of False Acceptance <2.5%.
- 10.- The uncertainties of tests, which are made explicit in the Results Report, have been estimated for a $k = 2$ (95% probability of coverage). If not informed, they are available to the client in AITEX.
- 11.- The original materials and rests of samples, not subject to test, will be retained in AITEX during the twelve months following the issuance of the report, so that any check or claim which, in his case, wanted to make the applicant, should be exercised within the period indicated.
- 12.- This report may only be sent or delivered by hand to the applicant or to a person duly authorised by the same.
- 13.- The results of the tests and the statement of compliance with the specification in this report refer only to the test sample as it has been analyzed / tested and not the sample / item which has taken the test sample.
- 14.- The client must attend at all times, to the dates of the realization of the tests.
- 15.- According to Resolution EA (33) 31, the test reports must include the unique identification of the sample, and any brand or label of the manufacturer may be added. It is not allowed to re-issue test reports of untested sample names (references), they can only be re-issued for error correction or inclusion of omitted data that were already available at the time of the test. The laboratory can not assume responsibility for declaring that the product with the new trade name / trademark is strictly identical to the one originally tested; This responsibility belongs to the client.
- 16.- This report may not be partially reproduced without the written approval of the issuing laboratory.
- 17.- The tests have been carried out at the Alcoy plant with the address described on the first page of the report, unless another location is indicated in the results sheet of the specific test.