

Tested by Standards Certified by Quality

Accreditation from renowned organizations from Europe and UK,
for Accelerated Weatherability Test (Artificial weathering up to 25,000 hours),
Mechanical properties & Chemical composition of our formulation.

Properties	Standards	Range	Result	Accreditations From	Page No.
Definition, Comparison and Consequences					04 to 11
Accelerated Weathering (50 GJ/m ² @ 25000 Hours)	DIN EN 513	ΔE not more than 5	1.6	SKZ-Germany & BSI-UK	20
Tensile Impact Strength	BS EN ISO 8256:2005	Not less than 600 KJ/m ²	934 KJ/m ²	SKZ-Germany & BSI-UK	16
Flexural Modulus of Elasticity	BS EN ISO 178:2013	Not less than 2200 N/mm ²	3070 N/mm ²	SKZ-Germany & BSI-UK	16
Charpy Impact Strength	BS EN ISO 179 -2:1999	Not less than 20 KJ/m ²	74.5 KJ/m ²	SKZ-Germany & BSI-UK	25
Reduction in Charpy Impact Strength [Before & After Weathering]	DIN EN ISO 179 -1/1fA	Not More than 40%	10.4 %	SKZ-Germany	25
Vicat Softening Temperature	BS EN ISO 306:1997	Not less than 75°C	80°C	SKZ-Germany & BSI-UK	32
Heat Reversion @ 100 °C,60Minutes	BS EN 12608-1:2016	To comply as per EN 12608-1:2016	Pass	BSI- UK	37
Resistance to Impact of Main Profile by falling Mass @ -10°C,	BS EN 12608-1:2016	To comply as per EN 12608-1:2016	Pass	BSI- UK	38
Weld Strength(Individual Specimen)	BS EN 514:2000	Not less than 20 Mpa	25.32 Mpa	BSI- UK	39
Heat Aging @ 150 °C,30 Minutes	BS EN 12608-1:2016	To comply as per EN 12608-1:2016	Pass	BSI- UK	39
RoHS	DIRECTIVE 2011/65/EU	Lead should not be detected	Not detected	SGS	42
Flammability	UL-94	10 Sec	V ₀	CIPET	50
Limiting Oxygen Index (LOI)	ASTM D2863	45 %	47%	CIPET	51
Density	ASTM D 792	Not Exceed 1.5 gm/cc	1.46 gm/cc	CIPET	54
Thermal Conductivity	ASTM E-1530	0.12 to 0.25 W/mk	0.137 W/mk	CIPET	55
Co-efficient of Linear Thermal Expansion	ASTM D 696	Below 5x10 ⁻⁵ /°C	3.82x10 ⁻⁵ /°C	CIPET	60

Accelerated Weathering Test (DIN EN 513)



DEFINITION

Accelerated weathering is a simulation of adverse environment conditions to speed up the weathering process to evaluate the compatibility of uPVC Profile against extreme tropical weather conditions.

Measure of ΔE value of uPVC Profile specimen through simulation of severe climatic zone 's' at 25000 hours @ 50 GJ/m² of irradiation

EN Standards vs PROMINANCE



CONSEQUENCES

ΔE Value beyond 5 leads to discolouration hazard and cannot comply any warranty commitment, whereas Prominance complies ΔE below 2.

Flexural Modulus Of Elasticity Test (EN ISO 178)



DEFINITION

Flexural modulus is the tendency of uPVC specimen to bend i.e. Quantification of stress to strain ratio in Flexural deformation.

EN Standards vs PROMINANCE



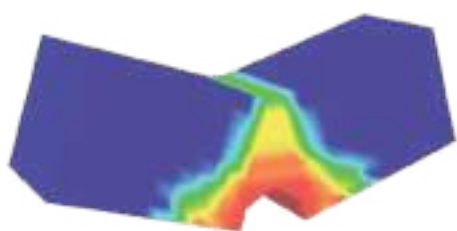
CONSEQUENCES

Poor Elasticity results into more brittleness and vulnerability.

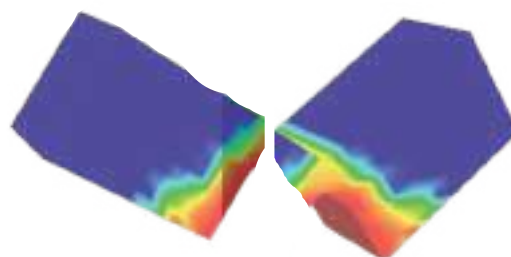
Charpy Impact Strength Test (EN ISO 179)

DEFINITION

Charpy V-notch test, is a standardized high strain-rate test which determines the amount of energy absorbed by uPVC during fracture.

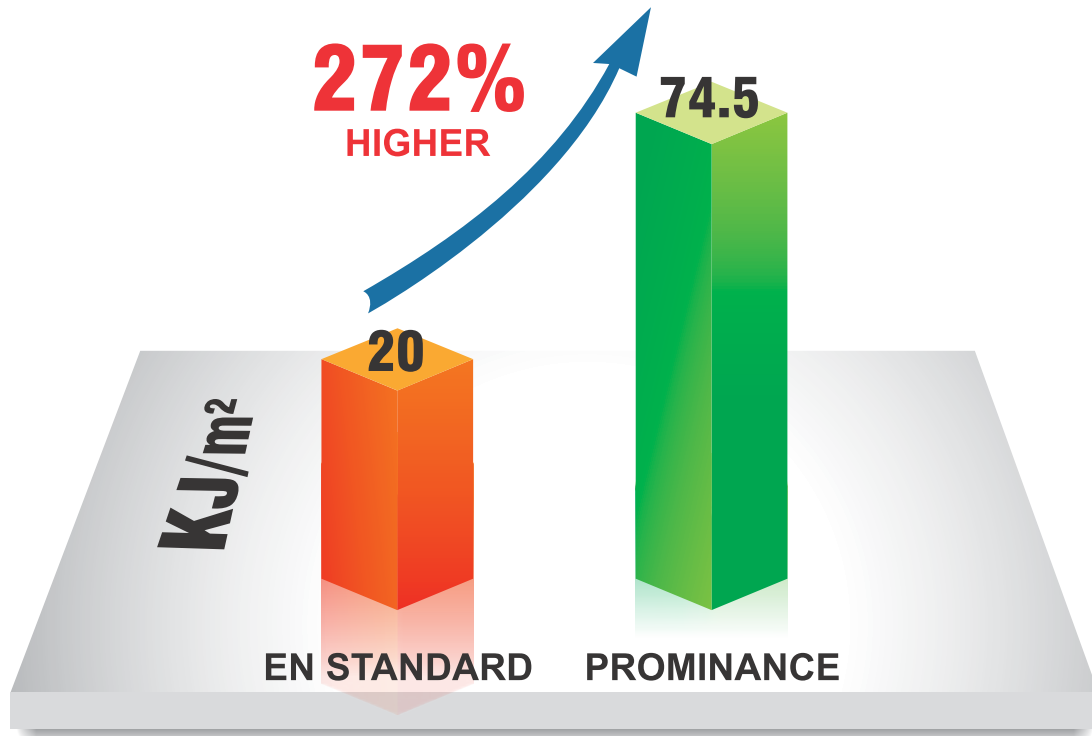


DUCTILE FRACTURE



BRITTLE FRACTURE

EN Standards vs Prominance



Ductile Fracture: Type of Fracture characterized by extensive deformation of plastic or “necking” resulted by finest grades of raw material used for extruding window Profiles.

Brittle Fracture: Type of Fracture characterized by rapid crack propagation with low energy release and without significant plastic deformation resulted by inferior or coarse grades of raw materials.

CONSEQUENCES

Poor impact strength results to brittle failure.

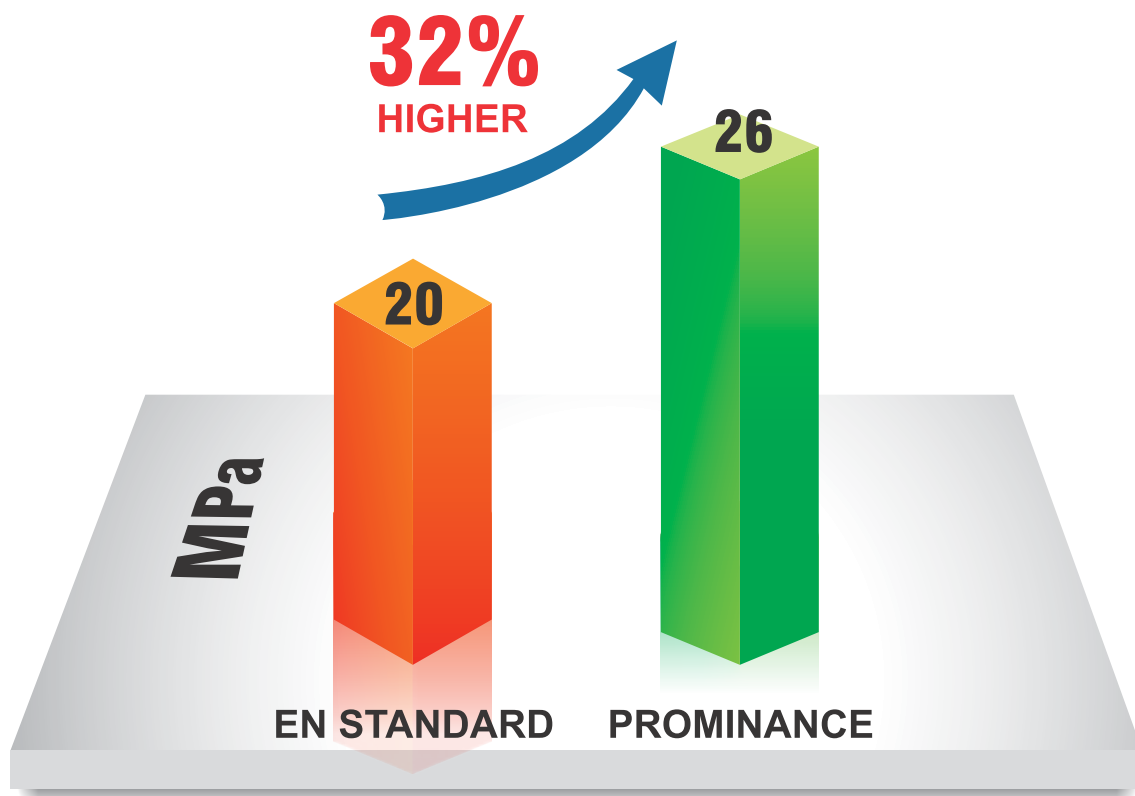
Weld Strength Test (EN 514)



DEFINITION

The measure of the molecular bonding strength of fusion welding i.e. The minimum failure load of welded corners.

EN Standards vs PROMINANCE



CONSEQUENCES

Low weld strength leads to weld cracks and panel cracks during transit and installation of Windows.

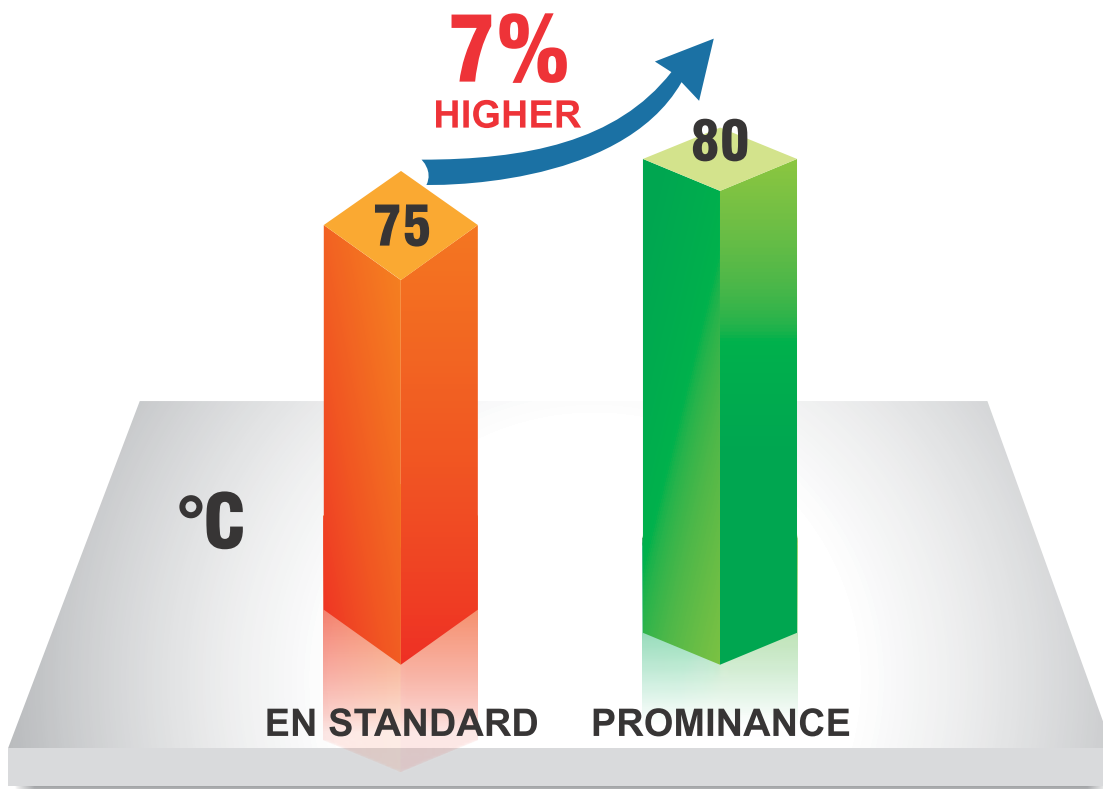
Vicat Softening Temperature(VST)-(EN ISO 306)



DEFINITION

The temperature at which the uPVC test specimen allows maximum penetration of needle upto 1mm, while it is heated up in an oil bath with simultaneous application of load(10N-50N) on the needle.

EN Standards vs PROMINANCE



CONSEQUENCES

Lower VST indicates poor formulation strength and deteriorate on early stages. Windows may deteriorate even at lower temperature.

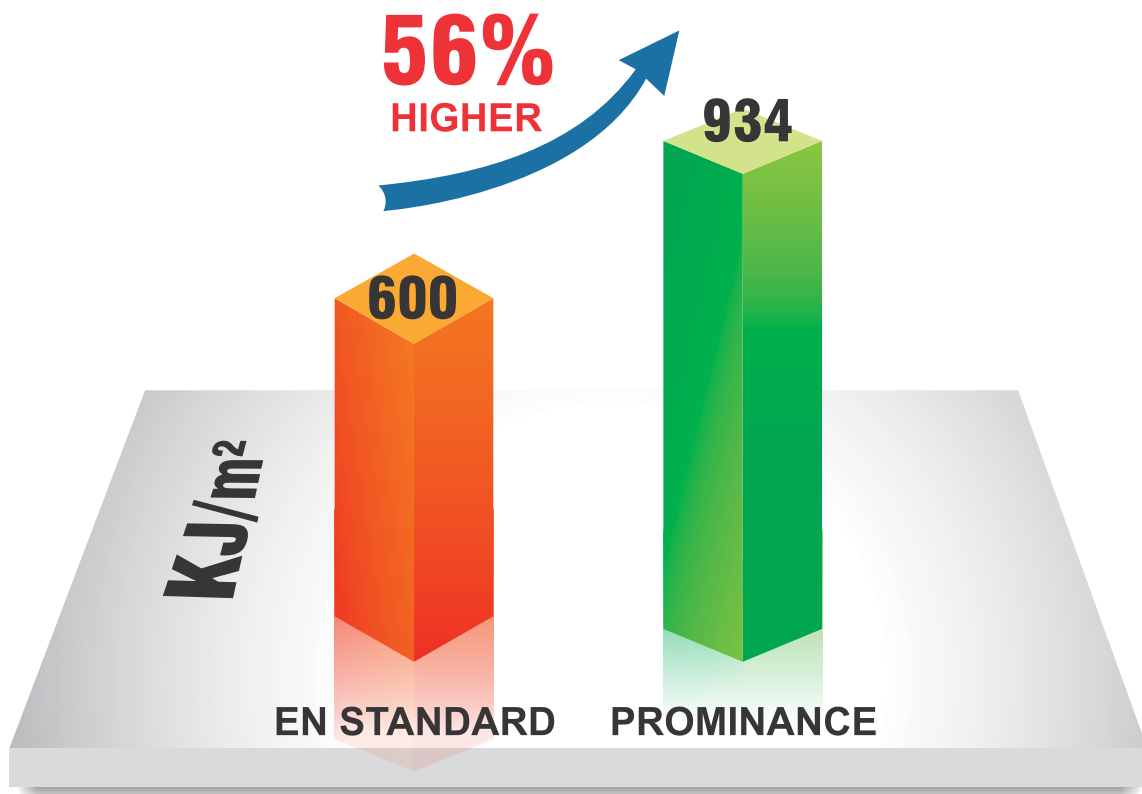
Tensile Impact Test (EN ISO 8256)



DEFINITION

The method of investigating the behaviour of the brittleness and toughness of uPVC specimen under specified impact velocities.

EN Standards vs PROMINANCE



CONSEQUENCES

Poor mechanical strength is more vulnerable for impact loads on Windows.

Heat Reversion (EN 12608)



Definition

Heat reversion is the behaviour of uPVC Profile to withstand the expansion or contraction at elevated temperature (100°C at 60 minutes in hot air oven). The value shall not be >2% in the largest opposing sight surfaces.

Heat reversion difference shall not be >0.4% of two visual surfaces.

Consequences:

Window warpage issue .

Heat Aging (EN12608)



Definition

Heat Aging is the behaviour of uPVC Profile specimen to withstand against the surface crack, surface peel off and blisters when simulated at elevated temperature (150°C at 30 minutes in hot air oven).

Consequences:

Cracks and rupture on the Window Profile surface due to entrapped gases.

ZERTIFIKAT

SKZ

Z122108/16

We hereby confirm that the tested window profiles made of PVC-U, produced with formulation

PROMINANCE uPVC DRYBLEND

of producer

Prominace uPVC Profiles, Captiv Fenestration
Appanaikenpatti, Sulur
641402 Coimbatore, TAMIL NADU
INDIA

according to the results of test report no. 122108/16 dated 14 October 2016

of the accredited Testing Laboratory

SKZ - Testing GmbH
Friedrich-Bergius-Ring 22
97076 Würzburg
GERMANY

complies with the requirements regarding

Material characteristics

(Vicat-softening temperature, Flexural modulus of elasticity and Tensile impact strength)

in accordance with the standard mentioned below

DIN EN 12608-1: 2016-08, annex A

This is to confirm that the formulation tested in the aforementioned report is in conformity with the standard.
If the formulation is changed, this certificate becomes invalid and a new test must be performed.

Würzburg, 2016-10-17



L. V.

Certification Body

Test report no.: 122108/16

Customer: Prominace uPVC Profiles, Captiv Fenestration
Appanaikenpatti, Sullur
641402 Coimbatore, TAMIL NADU
INDIA

Order: Testing of the material characteristics according to
DIN EN 12608-1: 2016-08, annex A on profiles made
of PVC-U for the fabrication of windows and doors

Letter of: 2016-07-21 by: Mr. Shan

Sample receipt: 2016-08-03

Test period: 2016-08-09 to 2016-10-10

This test report comprises 4 pages.

Würzburg, 2016-10-14
Rs/km

i. V.


Dr. Anton Zahn



i. A.


Wolfgang Ries

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betreffen ausschließlich die geprüften Proben. Die Abweichungen gelten nur für die in den Unterlagen aufgeführten Normen und Verfahren, die verwendet werden. www.skz.de eingesehen werden können.

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1. Order

By its letter of 21 July 2016 the company Prominance uPVC Profiles, Captiv Fenestration, Appanaikenpatti, Sulur, 641402 Coimbatore, TAMIL NADU, INDIA instructed the SKZ - Testing GmbH to test the material characteristics according to DIN EN 12608-1: 2016-08, annex A on profiles made of PVC-U for the fabrication of windows and doors.

2. Test material

SKZ - Testing GmbH had the following test material at their disposal on 3 August 2016:

4 x 1 m window profile sections made of PVC-U, colour white

Profile manufacturer:	Prominance uPVC Profiles, Captiv Fenestration, INDIA
Designation of system:	PROMINANCE
Designation of profile:	SASH PC62 US 04
Profile marking:	PROMINANCE PC62 US 04 21.04.16 18:21 AGRN L7
Designation of formulation:	PROMINANCE uPVC DRYBLEND
Base of stabilization:	CaZn

3. Test procedure

Testing of material characteristics was carried out according DIN EN 12608-1, window profiles made of PVC-U "Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods – Part 1: Non-coated PVC-U profiles with light coloured surfaces", edition 2016-08, annex A, item A.4.

Unless indicated otherwise, pre-testing storage and the test itself were carried out at standard conditioning atmosphere 23/50, class 1 according to DIN EN ISO 291: 2008-08.

Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de.

3.1 Vicat-softening temperature (VST)

The Vicat-softening temperature (VST) was determined according to DIN EN ISO 306: 2004-10, method B/50. The required samples were taken from the outer surface of the window profile. The mean value is based on 3 individual values.

Requirement:

The Vicat-softening temperature (VST) must be at least 75 °C on average and each individual value must be at least 73 °C.

3.2 Flexural modulus of elasticity

The flexural modulus of elasticity (E_b) was determined according to DIN EN ISO 178: 2013-09. The samples were taken from profile section by milling. The test speed was 1 mm/min, the support distance L was 48 mm (16 x sample thickness).

Requirement:

The flexural modulus of elasticity must be at least 2200 N/mm² on average and each individual value must be at least 2000 N/mm².

3.3 Tensile impact strength

The tensile impact strength test was carried out according to DIN EN ISO 8256: 2005-05 on samples of type 5. The samples were taken from the outer sight surface of the window profiles, in the direction of extrusion, by machining. The impact energy capacity of the pendulum was 50 J.

The mean value is based on 10 individual values.

Requirement:

The mean tensile impact strength must be at least 600 kJ/m² on average and each individual value must be at least 450 kJ/m².

4. Test results

4.1 Vicat-softening temperature (VST)

Vicat-softening temperature (VST) in [°C]			
Individual values			Mean value
80.5	80.7	80.7	80.6

Smallest individual value: 80,5 °C

4.2 Flexural modulus of elasticity

Flexural modulus of elasticity in [N/mm ²]	
Mean value from min. 5 individual measurements	Standard deviation
3070	64

Smallest individual value: 3010 N/mm²

4.3 Tensile impact strength

Tensile impact strength in [kJ/m ²]		
Mean value from 10 individual measurements	Standard deviation	Fracture behaviour
934	143	ductile

Smallest individual value: 770 kJ/m²

5. Assessment of test results

The requirements of DIN EN 12608-1: 2016-08, annex A, item A.4 concerning material characteristics on profiles made of PVC-U for the fabrication of windows and doors were fulfilled in the tested items.

Test report no.: 122109/16-III

Customer: Prominance uPVC Profiles, Captiv Fenestration
Appanaikenpatti, Sular
641402 Coimbatore
TAMIL NADU
INDIA

Production site: Prominance uPVC Profiles, Captiv Fenestration
Appanaikenpatti, Sular
641402 Coimbatore
TAMIL NADU
INDIA

Order: Testing of Fastness to weathering, classification for climate zone S (severe climate) according to DIN EN 12608-1: 2016-08 "Unplasticized poly (vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods", Part 1: Non-coated PVC-U profiles with light coloured surfaces.

Artificial weathering according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to a raised irradiation dose equivalent first of 20 GJ/m², continuation following up to a raised total irradiation dose equivalent of altogether 50 GJ/m² in the wave length range of 300 nm to 800 nm.

Letter of: 2016-07-30
Email of: 2017-09-27
2018-05-15

Ref: Mr. V. Shan
Mr. S. Devarajan

Sample receipt: 2016-08-03

Test period: 2016-08-05 to 2019-09-30

This test report comprises 4 pages.

Würzburg, 21 October 2019
Fs/km

i. V.

Dr.-Ing. Marcus Heindl
Head of Testing Laboratory



i. A.

Wolfgang Ries
Deputy Group Manager
Testing Laboratory Profiles and Sealants

Die ursprüngliche Forderung, Verifizierung und Übertragung dieses Berichtes bedarf der schriftlichen Genehmigung der SKZ - Testing GmbH. Die Ergebnisse beziehen sich auf die genannten Produkte. Der Akkreditierungspunktangabe kann im Internet unter www.dakks.de eingesehen werden.

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1. Order

By its letter dated 30 July 2016 and its emails dated 27 September 2017 and 15 May 2018 the company Prominance uPVC Profiles, Captiv Fenestration, Appanaikenpatti, Sulur, 641402 Coimbatore, TAMIL NADU, INDIA instructed SKZ - Testing GmbH to test the Fastness to weathering, classification for climate zone S (severe climate) according to DIN EN 12608-1: 2016-08 "Unplasticized poly (vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods", Part 1: Non-coated PVC-U profiles with light coloured surfaces. Artificial weathering was carried out according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to an irradiation dose equivalent first of 20 GJ/m², continuation following up to a raised total irradiation dose equivalent of altogether 50 GJ/m² in the wave length range of 300 nm to 800 nm.

2. Test material

On 3 August 2016 SKZ - Testing GmbH received following test material:

4 x 1 m window profile sections made of PVC-U, colour white

Profile designation:	Sash PC 62 US 04
Profile classification:	class A
Profile marking:	PROMINANCE PC 62 US 04 21.04.16 19:25 AGRN L7
Formulation:	Prominance uPVC Dry Blend
Basis of stabilization:	CaZn

3. Test procedure

Following tests were performed according to DIN EN 12608-1: 2016-08, item 5.9 Resistance to weathering, climate zone S. Artificial weathering according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to a raised irradiation dose equivalent of altogether 50 GJ/m² in the wave length range of 300 nm to 800 nm.

Unless otherwise noted testing was performed at a standard atmosphere of 23/50, class 1 in accordance with DIN EN ISO 291: 2008-08.

Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de. All non-accredited procedures are marked with *.

Parameter of xenon device

Type of weathering device:	XENOTEST® BETA LM
Light source:	Xenon-arc source
Filter:	Terrestrial daylight simulation
Black standard temperature:	65 ± 3 °C
White standard temperature:	45 - 50 °C
Relative humidity:	65 ± 5 %
Spray cycle:	6 min water spray, 114 min dry cycle
Irradiation energy E_{UV} (300 - 400) nm:	60 ± 2 W/m ²
Total irradiation dose equivalent in the wavelength range (300 - 800) nm:	50 GJ/m ²
Exposure period:	25,483 h
Start (Exposure up to 20 GJ/m ²):	2016-08-08
End (Exposure up to 20 GJ/m ²):	2017-11-10
Start (Exposure up to 50 GJ/m ²):	2017-11-10
End (Exposure up to 50 GJ/m ²):	2019-09-30

3.1 Fastness to weathering

Testing of Fastness to weathering was carried out according to DIN EN 12608-1: 2016-08, item 5.9.3.

3.1.1 Visual assessment

Visual assessment was carried out according to ISO 4582: 2017-08 by using grey scale according to DIN EN 20105-A02: 1994-10.

3.1.2 Colorimetric assessment

The colorimetric assessment was carried out by a spectrophotometer in wavelength range from 360 to 750 nm, standard light type D65, gloss inclusion, 10° standard observation. The colour distance ΔE^*_{ab} was determined according to DIN EN ISO 11664-4: 2012-06.

Requirement according to DIN EN 12608-1 (related to 12 GJ/m²):

After artificial weathering colour distance ΔE^*_{ab} between unweathered and weathered samples shall not be larger than 5 and colour distance Δb^* shall not be larger than 3.

4. Test results

4.1 Fastness to weathering

4.1.1 Visual assessment

The sample reached the fastness grade 4 of the grey scale according to DIN EN 20105-A02.

Neither stains, blisters nor crack formations or anything that significant damages the appearance were observed.

4.1.2 Colorimetric assessment

Colour coordinates	Sample as supplied	Sample after weathering	Colour distance
L*	95.7	96.5	0.8
a*	-0.8	-0.9	-0.1
b*	2.9	1.5	-1.4
Colour distance ΔE^*_{ab}			1.6

5. Assessment of test results

The requirements (related to an irradiation dose equivalent of 12 GJ/m²) according to DIN EN 12608-1: 2016-08 regarding Resistance to artificial weathering (fastness to weathering and resistance to weathering), classification to climate zone S (severe climate) were met after a raised total irradiation dose equivalent of 50 GJ/m².

ZERTIFIKAT

SKZ

Z122109/16

We hereby confirm that the tested window profiles made of PVC-U, produced with formulation

Prominace uPVC Dry Blend, CaZn

of producer

Prominace uPVC Profiles, Captiv Fenestration

Appansikenpatli, Sullur
Colmbatore-641402
TAMIL NADU
INDIA

according to the results of test report no. 122109/16 dated 16 August 2017

of the accredited Testing Laboratory

SKZ - Testing GmbH
Friedrich-Bergius-Ring 22
97076 Würzburg
GERMANY

complies with the requirements regarding

**Resistance to weathering for climate zone S (severe climate, raised
irradiation dose equivalent of 16 GJ/m²)**

(Impact strength after artificial weathering and colour fastness)

in accordance with the standard mentioned below

DIN EN 12608-1: 2016-08

This is to our firm that the formulation tested in the agreement meets most or in conformity with the standard.
If the formulation is changed, this certificate becomes invalid and a new test must be performed.

Würzburg, 2017-08-16



i.v.

Dipl.-Ing. Helmut Zanzinger
Certification Body

Test report no.: 122109/16

Customer: Prominance uPVC Profiles, Captiv Fenestration
Appanakenpatti, Sular
641402 Coimbatore
TAMIL NADU
INDIA

Production site: Prominance uPVC Profiles, Captiv Fenestration
Appanakenpatti, Sular
641402 Coimbatore
TAMIL NADU
INDIA

Order: Testing of Resistance to artificial weathering (fastness to weathering and resistance to weathering), classification for climate zone S (severe climate) according to DIN EN 12608-1: 2016-08 "Unplasticized poly (vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods", Part 1: Non-coated PVC-U profiles with light coloured surfaces.

Artificial weathering according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to a raised irradiation dose equivalent of altogether **16 GJ/m²** in the wave length range of 300 nm to 800 nm.

Letter of: 2016-07-30

Ref: Mr. V. Shan

Sample receipt: 2016-08-03

Test period: 2016-08-05 to 2017-08-18

This test report comprises 5 pages.

Würzburg, 2017-08-18
Rs/km

i. V.

Dr.-Ing. Marcus Heindl



i. A.

Wolfgang Ries

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1. Order

By its letter dated 30 July 2016 the company Prominance uPVC Profiles, Captiv Fenestration, Appanaikenpatti, Sulur, 641402 Coimbatore, TAMIL NADU, INDIA instructed SKZ - Testing GmbH to test the Resistance to artificial weathering (fastness to weathering and resistance to weathering), classification for climate zone S (severe climate) according to DIN EN 12608-1: 2016-08 "Unplasticized poly (vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors - Classification, requirements and test methods", Part 1: Non-coated PVC-U profiles with light coloured surfaces. Artificial weathering was carried out according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to a raised irradiation dose equivalent of altogether **16 GJ/m²** in the wave length range of 300 nm to 800 nm.

2. Test material

On 3 August 2016 SKZ - Testing GmbH received following test material:

4 x 1 m window profile sections made of PVC-U, colour white

Profile designation:	Sash PC 62 US 04
Profile classification:	class A
Profile marking:	PROMINANCE PC 62 US 04 21.04.16 19:25 AGRN L7
Formulation:	Prominance uPVC Dry Blend
Basis of stabilization:	CaZn

3. Test procedure

Following tests were performed according to DIN EN 12608-1: 2016-08, item 5.9 Resistance to weathering, climate zone S. Artificial weathering according to DIN EN 513: 1999-10, procedure 2 (simulation of a severe climate zone S) up to a raised irradiation dose equivalent of altogether **16 GJ/m²** in the wave length range of 300 nm to 800 nm.

Unless otherwise noted all tests were carried out at standard atmosphere 23/50, class 1 according to DIN EN ISO 291: 2008-08.

Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de.

3.1 Resistance to artificial weathering

Testing of Resistance to artificial weathering (fastness to weathering and resistance to weathering) was performed according to DIN EN 12608-1: 2016-08. Procedure of artificial weathering is based on the requirements according to DIN EN 513, procedure 2, simulation of a severe climate zone (S). Surface outside was irradiated. The artificial weathering was carried out up to a raised irradiation dose of altogether 16 GJ/m² in the wave length range between 300 nm to 800 nm.

Parameter of xenon device

Type of weathering device:	XENOTEST® BETA LM
Light source:	Xenon-arc source
Filter:	Terrestrial daylight simulation
Black standard temperature:	65 ± 3 °C
White standard temperature:	45 - 50 °C
Relative humidity:	65 ± 5 %
Spray cycle:	6 min water spray, 114 min dry cycle
Irradiation energy E _{UV} (300 - 400) nm:	60 ± 2 W/m ²
Total irradiation dose equivalent in the wavelength range (300 - 800) nm:	16 GJ/m²
Exposure period:	8140 h
Start:	2016-08-08
End:	2017-08-04

3.1.1 Resistance to weathering

Testing of Resistance to weathering was carried out according to DIN EN 12608-1: 2016-08, item 5.9.2 on double notched specimen following DIN EN ISO 179-1/1fA: 2010-11, but with a residual width between notches of (3 ± 0.1) mm and with the dimensions (50 x 6 x wall thickness) mm. The test was carried out subsequent to artificial weathering on reference samples, which have been stored in the dark, as well as on weathered samples. During this test the weathered surface was subjected to tensile stress.

Requirements according to DIN EN 12608-1 (related to 12 GJ/m²):

The mean value of Charpy notched impact strength at condition as delivered (un-weathered) shall not drop below 55 kJ/m².

After artificial weathering Charpy notched impact strength of weathered samples shall not drop more than 40 % compared to the value of the unweathered samples.

3.1.2 Fastness to weathering

Testing of Fastness to weathering was carried out according to DIN EN 12608-1: 2016-08, item 5.9.3.

3.1.2.1 Visual assessment

Visual assessment was carried out according to ISO 4582: 2007-08 by using grey scale according to DIN EN 20105-A02: 1994-10.

3.1.2.2 Colorimetric assessment

The colorimetric assessment was carried out by a spectrophotometer in wavelength range from 360 to 750 nm, standard light type D65, gloss inclusion, 10° standard observation. The colour distance ΔE^*_{ab} was determined according to DIN EN ISO 11664-4: 2012-06.

Requirement according to DIN EN 12608-1 (related to 12 GJ/m²):

After artificial weathering colour distance ΔE^*_{ab} between unweathered and weathered samples shall not be larger than 5 and colour distance Δb^* shall not be larger than 3.

4. Test results

4.1 Resistance to artificial weathering

4.1.1 Resistance to weathering

Charpy notched impact strength

Samples corresponding to DIN EN ISO 179-1/ 1fA (notch base radius 0.25 mm)				
reference sample (unweathered)		weathered sample		amendment
\bar{x} [kJ/m ²]	s	\bar{x} [kJ/m ²]	s	[%]
74.4	1.5	66.7	1.8	-10.4
10 x P* (10 x partial break)		10 x P* (10 x partial break)		—

\bar{x} = mean value s = standard deviation

4.1.2 Fastness to weathering

4.1.1 Visual assessment

The sample reached the fastness grade 4 of the grey scale according to DIN EN 20105-A02.

Neither stains, blisters nor crack formations or anything that significant damages the appearance were observed.

4.1.2 Colorimetric assessment

Colour coordinates	Sample as supplied	Sample after weathering	Colour distance
L*	95.7	96.4	0.7
a*	-0.8	-0.8	0.0
b*	2.9	1.2	-1.7
Colour distance ΔE^*_{ab}			1.8

5. **Assessment of test results**

The requirements (related to an irradiation dose equivalent of 12 GJ/m²) according to DIN EN 12608-1: 2016-08 regarding Resistance to artificial weathering (fastness to weathering and resistance to weathering), classification to climate zone S (severe climate) were met after a total irradiation dose equivalent of **16 GJ/m²**.



BSI
Kitemark House
Maylands Avenue
Hemel Hempstead
Hertfordshire
HP2 4SQ

8572674-Test Report.

Test Report 8572674.

Captiv Fenestration / Prominance UPVC Profiles

Page 1 of 15

...making excellence a habit.



Introduction.

This report has been prepared by Enrol Creary and relates to the activity detailed below:

Job/Registration Details		Client Details
Job number:	8572674	Captiv Fenestration
Job type:	Testing Samples Submitted	Appanakenpatti, Sular
Start Date:	25/07/2016	Coimbatore
Test type:	Direct	Tamilnadu
Sample ID:	10164761	641402
	10165196	India
	10173643	
Registration:	NA	
Protocol:	NA	
Quality system:	NA	
Registration:	NA	
Protocol:	NA	
Quality system:	NA	

The report has been approved for issue by Mark Manito – Team Manager

This issue supersedes all previous issues. The amendment giving rise to this issue of the Report can be ascertained by contacting the authorizing signatory.

Approved For Issue	
	Issue Date: 12 September 2017

Objectives.

Direct test

Product Scope.

PC 62-US-04

Report Summary.

The samples were received on 25 July 2016 and the testing was started on 25 July 2016.

The samples submitted complied with the requirements of the test work conducted.

Test Samples.

Sample Id.	ER Number	Description
1	PC 62-US-04	Caseament Inward Door Sash

Description of Test Samples.

Sample Description
1 off Main Profile(inc 1 off PAS 23 & PAS 24 door profile)
4 off 250mm (+10/-10) lengths
2 off 200mm (+10/-10) lengths
12 off 300mm (+/-5mm) lengths
1 off 1000mm (+10/-10) lengths
10 off welded 90° corners with 500mm long legs "I" and "V" values for each welded profile

Test Requirements.

BS EN 12608 Direct

Clause	Requirements	
5.	Requirements	
5.1	Materials	
5.1.3	Material characteristics	
	Vicat softening temperature	PASS
	Charpy Impact strength	PASS
	Flexural modulus of elasticity	PASS
	Tensile impact strength at 23 C	PASS
5.2	Appearance	PASS
5.3	Dimensions and tolerances	
5.3.2	Thickness of walls of main profile	PASS
5.3.3	Tolerances on other dimensions	PASS
5.3.4	Deviation from straightness of main profiles	PASS
5.4	Mass of main profiles	PASS
5.5	Heat reversion	PASS
5.6	Resistance to impact of main profiles by falling mass	PASS
5.7	Behaviour after heating at 150 C	PASS
5.8	Weldability	PASS

Glossary of Terms.

PASS: Complies. Tested by BSI engineers at BSI laboratories.

PASS1: Complies. Witnessed by BSI engineers in manufacturers laboratory.

PASS2: Complies. Tests carried out by third party lab; results accepted by BSI.

PASS*: Report resulted in uncertainty and states that Compliance is more probable than non-compliance.

FAIL: Non compliance – Product does not meet the requirements of this clause.

FAIL*: Report resulted in uncertainty and states that Non-compliance is more probable than compliance.

N/A: Not applicable to design under consideration.

N/T: Not tested due to similarity to previously tested item; reference earlier test report.

Conditions of Issue.

This Test Report is issued subject to the conditions stated in current issue of 'BSI Terms of Service'. The results contained herein apply only to the particular sample(s) tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of BSI, who reserve the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

Should you wish to speak with BSI in relation to this report, please contact Customer Services on +44 (0)8450 80 9000.

BSI
Kitemark House
Maylands Avenue
Hemel Hempstead
Hertfordshire
HP2 4SQ



Opinions and Interpretations expressed herein are outside the scope of our UKAS accreditation.

Unless otherwise stated, any results not obtained from testing in a BSI laboratory are outside the scope of our UKAS accreditation.

BS EN 12608 Direct

Test Results.

CLAUSE

5. REQUIREMENTS

5.1 Materials

5.1.3 Physical Properties

Material characteristics

	Specified	Actual	Assessment
Vicat softening temperature			
Annex A.4.1 (BS EN ISO 306:1997)			
Vicat softening temperature (°C)	75 min	80.6	Pass
Samples taken from profile PC 62-US-04			
Charpy Impact strength			
Annex A.4.2 (See BS EN ISO 179-2:1999)			
Arithmetic mean (kJ/m ²)	20 min	20.94	Pass
Standard deviation (kJ/m ²)	-	9.4	
Co-efficient of variation (%)	-	45.37	
Samples taken from profile PC 62-US-04			
Mean for 6 brittle (P) fractures			
Arithmetic mean (kJ/m ²)	20 min	74.50	Pass
Standard deviation (kJ/m ²)	-	2.58	
Co-efficient of variation (%)	-	3.46	
Samples taken from profile PC 62-US-04			
Mean for 4 ductile (P) fractures			
Flexural modulus of elasticity			
Annex A.4.3 (BS EN ISO 178:2003)			
Mean flexural modulus of elasticity (MPa)	2200 min	2967.5	Pass
Samples taken from profile PC 62-US-04			
Tensile impact strength at 23°C			
Annex A.4.4 (BS EN ISO 8256:1997)			
Arithmetic mean (kJ/m ²)	600 min	664.30	Pass
Standard deviation (kJ/m ²)	-	74.85	
Co-efficient of variation (%)	-	11.27	
Samples taken from profile PC 62-US-04			

Test Results (Continued).**CLAUSE****5. REQUIREMENTS****5.2 Appearance**

The colour of the profiles shall be the same and uniform when viewed by normal vision or corrected vision at a range of 1m, in 45° north sky light viewing perpendicular to the surface in accordance with EN ISO 105-A01:1995 or with an equivalent artificial source of light. The surfaces of the profiles shall be smooth, flat and free from pitting, impurities, cavities and other surface defects. The edges of the profiles shall be clean and burr-free.

Profile code
PC 62-US-04

Assessment
Pass

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.3 Dimensions and tolerances

5.3.1 Nominal shape

The cross-section of the profiles shall conform to the nominal profile. The tolerances of the external dimensions of the profile with respect to the nominal profile shape shall be in accordance with Table 4

5.3.2 Thickness of walls of main profile

The thickness of the walls of the main profile according to Figure 2 shall be declared by the manufacturer

5.3.3 Tolerances on other dimensions

The critical dimensions of main profiles other than the thickness of the external walls and of auxiliary profiles as well as their tolerances shall be specified by the manufacturer

Profile code: PC 62-US-04

Class A

See drawing on page 14

Manufacturer's drawing number: None

Issue date: None

Dimension	Actual measurement (mm)	Assessment
A	61.99	Pass
B	81.84	Pass
C	82.03	Pass
D	101.51	Pass
E	3.01	Pass
F	2.53	Pass

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.3 Dimensions and tolerances (Continued)

5.3.4 Deviation from straightness of main profiles

When measured in accordance with the method described in Clause 6.2 the deviation from the straightness shall not be greater than 1mm for a length of 1m

Profile code	Sight surface	Specified	Actual	Assessment
PC 62-US-04	1	1 max	0.13	Pass
	2	1 max	0.29	Pass

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.4 Mass of main profiles

When measured in accordance with the method described in Clause 6.3 the mass per metre length of main profiles shall not be less than 95% of the nominal mass per metre length

Profile code	Specified (%)	Actual (%)	Assessment
PC 62-US-04	95 min	100.6	Pass

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.5 Heat reversion

5.5.1 Main profile

When tested in accordance with BS EN 479:1999 for each test specimen the heat reversion of the two largest opposing sight surfaces shall not be greater than 2.0%

The difference in heat reversion for each test specimen between these sight surfaces shall not be greater than 0.4%

5.5.2 Auxiliary profiles

When tested in accordance with BS EN 479:1999 the heat reversion for each test specimen shall not be greater than 3.0%, for glazing beads used externally, a limit of 2% max is recommended

Mean reversion

Profile code	Actual value	Assessment
PC 62-US-04	0.99	Pass
	1.01	Pass
	0.99	Pass

Variation between sight surfaces

Profile code	Sample code	Actual value	Assessment
PC 62-US-04	1	0.17	Pass
	2	0.02	Pass
	3	0.05	Pass

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.6 Resistance to impact of main profiles by falling mass

When main profiles are tested in accordance with BS EN 477:1999 for the appropriate classification no more than one test specimen shall show rupture in the wall

For coextruded profiles the delamination of the coextruded layer is also considered as failure

Profile Codes	Class	Mass used (g)	Drop height (m)	Number failures out of 10
PC 62-US-04	11	1000	1.5	0

Test Results (Continued).

CLAUSE

5. REQUIREMENTS (CONTINUED)

5.7 Behaviour after heating at 150°C

When tested in accordance with BS EN 478:1999 the profiles shall show no defects. For coextruded profiles the delamination of the coextruded layer is also considered as failure

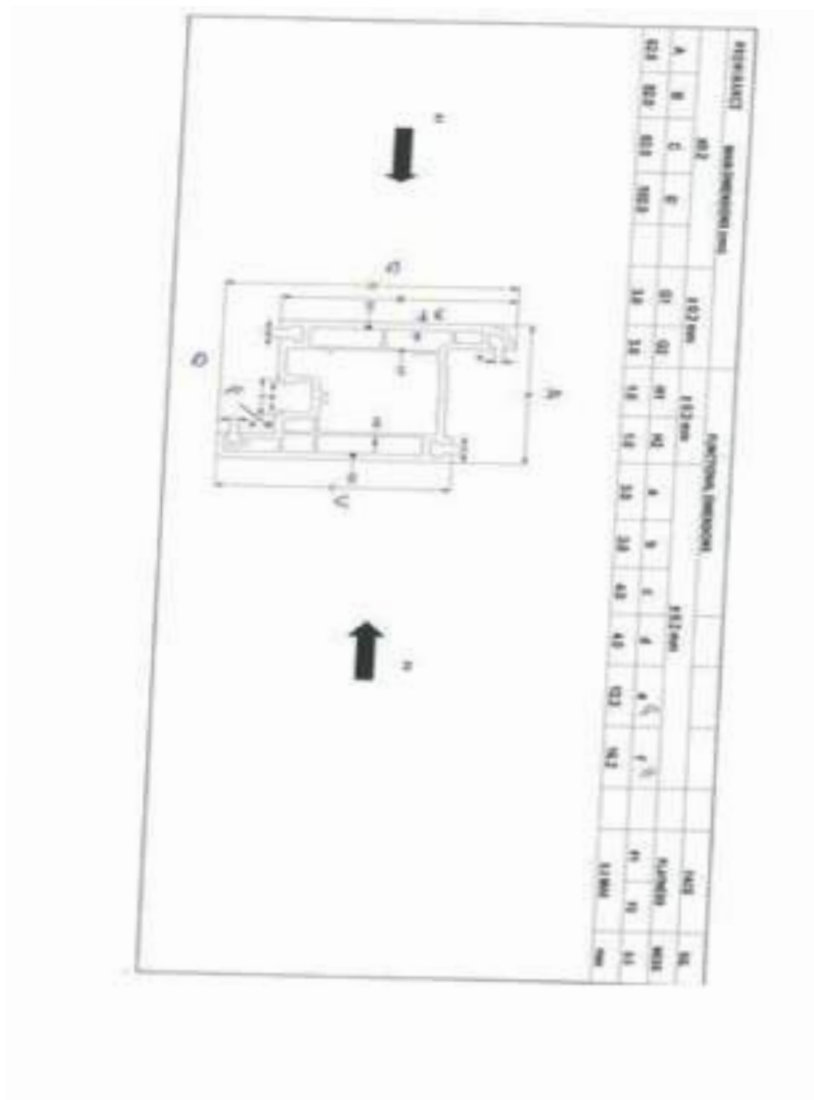
Profile code
PC 62-US-04

5.8 Weldability

When tested in accordance with EN 514:2000, the mean weld failure stress shall not be less than 25 MPa and no individual result shall fall below 20 MPa

Profile code	I (mm ²)	V (mm)	Sample No	Stress (MPa)	Assessment
PC 62-US-04	472276.44	31.7	1	24.34	Pass
			2	25.27	Pass
			3	26.36	Pass
			Mean	25.32	Pass

Note 'I' and 'V' values supplied by manufacturer.



Photograph of Samples.



End of Report



TEST REPORT

Report No. : MAN:TR:7530011891

DATE : 19/08/2016



PROMINANCE uPVC PROFILES
CAPTIV FENESTRATION,S.F NO-207/1B,1C, APPANAIKENPATTI, SULUR
COIMBATORE-641402
INDIA

CONTACT PERSON : MR. DEVARAJAN

THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED AND IDENTIFIED BY/ON BEHALF OF THE CUSTOMER AS :

SAMPLE DESCRIPTION uPVC PROFILE

QUOTE NO PC/290/1607/MO

COUNTRY OF ORIGIN INDIA

SAMPLE RECD ON 09/08/2016

TESTING PERIOD : 12/08/2016 - 16/08/2016

TEST(S) REQUESTED ROHS TEST

Test Requested : Selected test (s) as requested by client.
Test Method : Please refer to next page(s).
Test Result(s) : Please refer to next page(s).

Conclusion Based on the performed tests on selected part of submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Per Pro SGS India Pvt Ltd.

Authorized Signatory
Kapil Patel
(Asst. Manager- Chemical)
Email your Test Report Related Enquiries at Feedback.HLT@sgs.com

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TEST REPORT

Report No. : MAN:TR:7530011891

DATE : 19/08/2016



Test result :
ID for sample : 7480011891
Description for sample : uPVC PROFILE

Table with 6 columns: Test Item(s), Unit, Test Method, Results, MDL, Limit. Rows include Cadmium(Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (CrVI), Sum of PBBs, and various bromobiphenyls.

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		(Determination of PBB by GC-MS)			
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	-	1000
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-
Decabromodiphenyl ether ##	mg/kg	With reference to IEC 62321:2008 (Determination of PBDEs by GC-MS)	n.d.	50	-

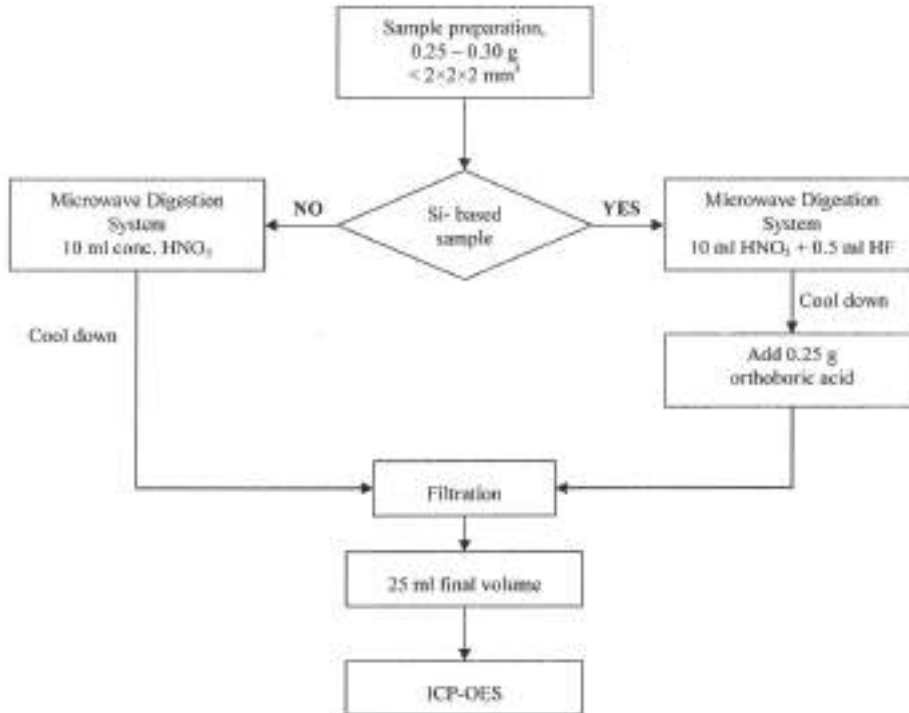
Note :-

- (a) mg/kg = ppm ; 0.1wt% = 1000ppm
- (b) n.d. = not detected
- (c) MDL = Method Detection Limit
- (d) ## = The exemption of DecaBDE in polymeric application according 2005/71/EC was extended by the European Court of Justice by its decision of 01.08.2008. Subsequently DecaBDE is included in the scope of PBDE after 01.07.2008
- (e) - = not regulated

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Process Flow for analysis of metal contents in plastics, metals and electronic components sample

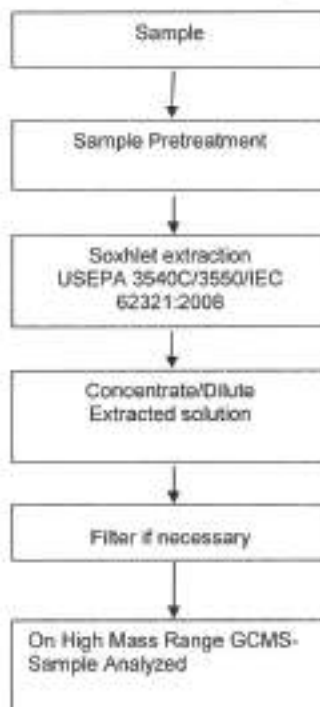


Analyzed By: Suman Mandrwal

Checked By: Kapil Patil



Process Flow for analysis of Flame Retardants in plastics, metals and electronic components sample



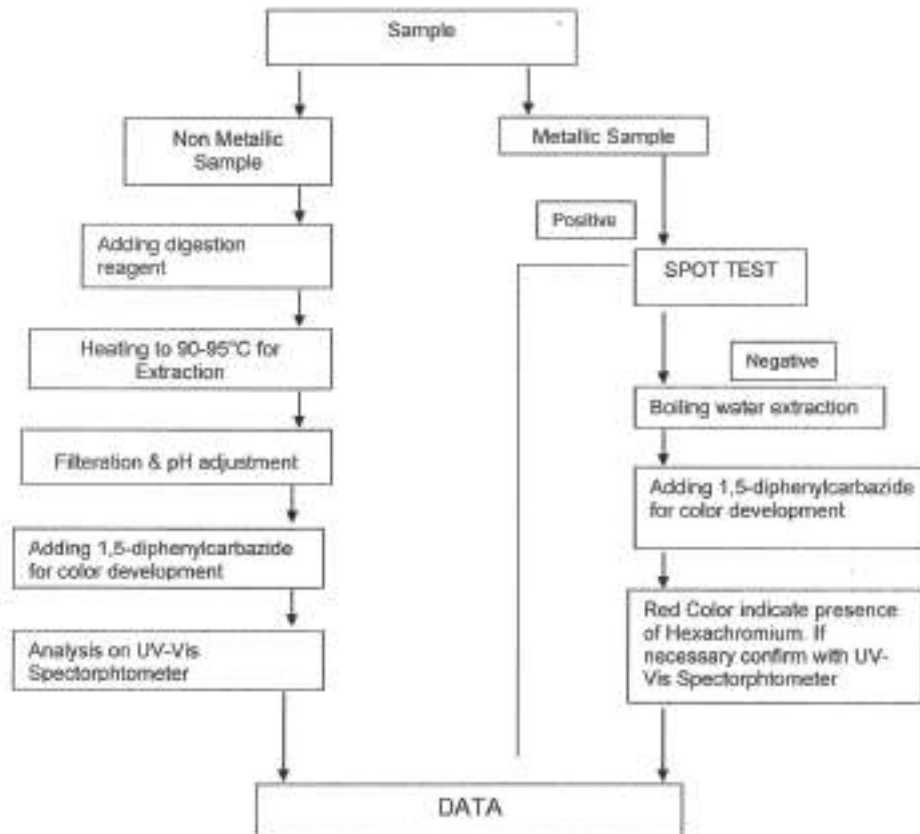
Analyzed By: Suman Mandrwal

Checked By: Kapil Patil

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Process Flow for analysis of Hexavalent chromium contents in plastics, metals and electronic components sample



Analyzed By: Suman Mandwal

Checked By: Kapil Patil



Sample Photo: as received



SGS authenticate the photo on original report only.

Note : Test performed as per the conditions given by the client.
Above Test subcontracted to **SGS approved lab.**

*** End of Report ***

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(खान एव अमक संकलन, अरर अररर)
सलर, अरर - 400 032,
अरर : 22254701-06 अररर : 91-44-22254707



**CENTRAL INSTITUTE OF PLASTICS
ENGINEERING & TECHNOLOGY**

(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032, India.
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E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

अरर अरर / Issued to :

**Prominace uPVC Profiles,
M/s. Captiv Fenestration,
S.F.No.207/1B, 1C, Selearachal Road,
Appanaickenpatti, Sulur,
Coimbatore - 641 402.**

अरर / SI. No. **10467**

रररर सं / REPORT NO. **51944**

Pages.....Nos. Part A,B,C & D

रररर / Date : **27.10.2016**

संदर्भ / Ref. : Dated: **15.10.2016**

अरररर अररर संरर अरर अरररर ररररर / TEST REPORT AS PER TEST STANDARD : Refer Part C

अरर - अ / PART - A

अररर अररर अरर अररर / PARTICULARS OF SAMPLE SUBMITTED

अ)	अररर अरर अरर / a) Name of the Sample	:	UPVC Profiles -as stated by the party
अ)	अररर अररर अररर अररर / b) Date of Receipt of sample	:	18.10.2016
अ)	अरर/अररर/अररर/अरर / c) Grade / variety / type / size / class	:	Not applicable
अ)	अरररर अररर / d) Declared value, if any	:	Not applicable
अ)	अरर सं. / e) Code No.	:	F - PC62US04
अ)	अरर सं. अरर अरररर अरररर / f) Batch No. and Date of Manufacture:	:	Not applicable
अ)	अरर / g) Quantity	:	2 No's
अ)	अरररर अरर ररर / h) Mode of Packing	:	Packed in carton pack
अ)	अररर अरर अरर / i) Sealed or not	:	Not Sealed
अ)	अरर अरर अरर / j) Any other information	:	-

अरर - अ / PART - B

अरररर अरररर / SUPPLEMENTARY INFORMATIONS

अ)	अररररर अरररररररररररररररररर / a) Reference to sampling procedure	:	Sampling not done by this lab
अ)	अरर अरररररररररररररररररररररररररररररर / b) Supporting documents for the measurement taken and result derived	:	As given in Part C
अ)	अरररररररररररररररररररररररररररररर / c) Deviation from the test method as prescribed in relevant work instructions, if any	:	No deviation from the standard

सेंट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
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षण : 22254701-06 षणन : 91-44-22254707



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E-mail : chennai@cpet.gov.in Website : www.cpet.gov.in

रिषुद सं / REPORT NO. : 51944

**षरीक्षण रिषुद
TEST REPORT**

क्र.षं / Sl. No. 10467

दिनाष / Date : 27.10.2016

षाग - ष / PART - C

षरीक्षण षरिषाग / TEST RESULTS

Test Duration: 18.10.2016 to 27.10.2016

Sl. No.	Property	Standard	Unit	Results Obtained
1.	Flammability	UL94	--	V ₀

PART - D

REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

2 of 2

10,001 to 12,500 / AUP / 12.4.2016

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एंड टेक्नोलॉजी
(संस्कृत एवं प्रौद्योगिकी विभाग, भारत सरकार)
पिनको. चन्ने - 600 032
फोन : 22254701-08 फैक्स : 91-44-22254707



**CENTRAL INSTITUTE OF PLASTICS
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(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032, India
Tel : 22254701-08 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

को जारी / Issued to :
**M/s.Captiv Fenestration,
Prominence UPVC Profiles,
SF.No.2017/1B & 1C,
Selakarachal Road, Appanaickenpatti,
Sulur, Coimbatore - 641 402.**

क्र.सं / Sl. No. **12687**

रिपोर्ट सं / REPORT NO. : **53643**

Pages...**2**...Nos. Part A,B,C & D

दिनांक / Date : **12th May, 2017**

संदर्भ / Ref. : Dt.:27.04.2017

परीक्षण मानक स्तर के अनुसार परीक्षण रिपोर्ट / TEST REPORT AS PER TEST STANDARD : Refer Part C

भाग - क / PART - A

प्रस्तुत नमूने का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ) नमूने का नाम / a) Name of the Sample	:	Prominence UPVC Profile -as stated by the party
ब) नमूने प्राप्त होने की तारीख / b) Date of Receipt of sample	:	01.05.2017
क) ग्रेड/प्रकार/आकार/वर्ग / c) Grade / variety / type / size / class	:	Not applicable
द) घोषित मूल्य / d) Declared value, if any	:	Not applicable
इ) कोड सं. / e) Code No.	:	L O I 1
फ) बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:	:	Not applicable
ग) मात्रा / g) Quantity	:	01 Sample
घ) पैकेजिंग की शैली / h) Mode of Packing	:	Packed in polythene cover
च) सीलर बंद या नहीं / i) Sealed or not	:	Not Sealed
ज) कोई अन्य सूचना / j) Any other information	:	--

भाग - ब / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ) नमूने संग्रहण कार्यवाही के हेतु संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
ब) माप करने के लिए ली गई सहायक दस्तावेज एवं प्राप्त परिणाम / b) Supporting documents for the measurement taken and result derived	:	As given in Part C
क) संबंधित कार्य अनुदेशों में निर्धारित के अनुसार कोई भी विचलन / c) Deviation from the test method as prescribed in relevant work instructions, if any	:	No deviation from the standard

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(एनएम ईई अंडीक मंत्रालय, भारत सरकार)
गुन्दी, चेन्नई - 600 032
फोन : 22254701-05 फैक्स : 91-44-22254707



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E-mail: chemsil@cipet.gov.in Website: www.cipet.gov.in

रिपोर्ट सं / REPORT NO. : **53643** परीक्षण रिपोर्ट
TEST REPORT

दिनांक / Date : **12.05.2017**

क्र.सं / Sl. No. **12687**

भाग - ग / PART - C

परीक्षण परिणाम / TEST RESULTS

Test Duration: 01.05.2017 to 12.05.2017

Sl. No.	Property	Standard	Unit	Results obtained
1.	Limiting oxygen index	ASTM D 2863	%	47.0

PART - D


REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

2 of 2

12501 to 15000 / AWP / 09/03/2017


AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एंड टेक्नोलॉजी
(मिनिस्ट्री ऑफ केमिकल, फर्टिलाइजर, गवर्नमेंट ऑफ इंडिया)
गुंडी, चेन्नई - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707



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Guindy, Chennai - 600 032, India.

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E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

को जारी / Issued to :

M/s. Prominence uPVC Profiles,
Captiv, Fenestration, S.F.No 207/1B, 1C,
Selekarchal Road, Appanaickenpatti,
Sulur, Coimbatore - 641 402.

क्र. नं / Sl. No. **9991**

रिपोर्ट नं / REPORT NO. : **51393**

Pages...**4**...Nos. Part A,B,C & D

दिनांक / Date : **08.09.2016**

संदर्भ / Ref. : Dated: Nil

परीक्षण मानक स्तर के अनुसार परीक्षण रिपोर्ट / TEST REPORT AS PER TEST STANDARD : Refer Part C

भाग - क / PART - A

प्रस्तुत नमूने का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ) नमूने का नाम / a) Name of the Sample	:	1) Profile Frame, Sash, Mullion 2) Compounded Material -as stated by the party
आ) नमूने प्राप्त होने की तारीख / b) Date of Receipt of sample	:	16.08.2016
इ) ग्रेड/प्रकार/अकार/वर्ग / c) Grade / variety / type / size / class	:	Not applicable
ई) घोषित मूल्य / d) Declared value, if any	:	Not applicable
उ) कोड नं. / e) Code No.	:	Not applicable
ऊ) बैच नं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:	:	Not applicable
ख) मात्रा / g) Quantity	:	01 Box
ए) पैकेजिंग की शैली / h) Mode of Packing	:	Packed in carton box
ऐ) सील किया गया है / i) Sealed or not	:	Not Sealed
जे) कोई अन्य सूचना / j) Any other information	:	...

भाग - ब / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ) नमूने लेने की प्रक्रिया का संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
आ) माप करने हेतु लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम / b) Supporting documents for the measurement taken and result derived	:	As given in Part C
इ) संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण शैली से कोई विचलन / c) Deviation from the test method as prescribed in relevant work instructions, if any	:	No deviation from the standard

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एंड टेक्नोलॉजी
(शासन एवं उर्वरक विभाग, भारत सरकार)
गुंडी, चणनी - 600 032
फोन : 22254701-06 फैक्स : 91-44-22254707



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Gundly, Chennai - 600 032, India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

रिपोर्ट सं / REPORT NO. : 51393

**परीक्षण रिपोर्ट
TEST REPORT**

क्र.सं / Sl. No. ' 9991

दिनांक / Date : 08.09.2016

भाग - ग / PART - C

परीक्षण परिणाम / TEST RESULTS

Test Duration: 17.08.2016 to 08.09.2016

Sl. No	Property	Standard	Unit	Results Obtained	
				Profile	PVC Compound
1.	Density	ASTM D 792	g/cc	1.46	1.44

Contd...

2 of 4

7501 to 10,000 / RVP / 18.02.2016


AUTHORISED SIGNATORY



CIPET
Chennai-32



Continuation Sheet

Report No: 51393

TEST RESULTS

Date: 08.09.2016

Sl. No	Property	Standard	Unit	Results Obtained
				Profile
1.	Thermal Conductivity at 55°C Mean Temperature	ASTM E-1530	W/mk	0.137

Contd....

A. Mahalingam

3 of 4


AUTHORISED SIGNATORY



CIPET
Channel-32



Continuation Sheet

Report No: 51393

TEST RESULTS

Date: 08.09.2016

Sl. No	Property	Standard	Unit	Results Obtained
				PVC Compound
1.	Thermal Conductivity at 55°C Mean Temperature	ASTM E-1530	W/mk	0.165

PART - D

REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

N. Mohan Kumar

4 of 4

[Signature]
AUTHORIZED SIGNATORY

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इंजीनियरिंग एंड टेक्नोलॉजी
(विद्युत एवं जल संसाधन, भारत सरकार)
चिन्नम, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707



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Chennai, Chinnai - 600 032, India.

Tel : 22254701-06 Fax : 91 - 44 - 22254707

E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

को जारी / Issued to :
M/s. Prominence, Captiv Fenestration,
Appanaikenpatti, Sulur. SF No:207/1B, 1C,
Coimbatore - 641 402,
Tamil Nadu.

क्र. / Sl. No. **8630**
रिपोर्ट सं. / REPORT NO. : **50307**
Pages...2...Nos. Part A,B,C & D
दिनांक / Date : 09th May, 2016

संदर्भ / Ref. : Letter dtd: 01.04.2016

परीक्षण मानक स्तर के अनुसार परीक्षण रिपोर्ट / TEST REPORT AS PER TEST STANDARD : Refer Part C

भाग - क / PART - A

प्रस्तुत नमूने का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ) नमूने का नाम / a) Name of the Sample	:	UPVC Profile samples -as stated by the party
ब) नमूने प्राप्त होने की तारीख / b) Date of Receipt of sample	:	04.04.2016
क) ग्रेड/प्रकार/आकार/वर्ग / c) Grade / variety / type / size / class	:	Not applicable
द) घोषित मूल्य / d) Declared value, if any	:	Not applicable
ए) कोड नं. / e) Code No.	:	Not applicable
फ) बैच नं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:	:	Not applicable
ग) मात्रा / g) Quantity	:	2 Bundle
घ) पैकेजिंग की शैली / h) Mode of Packing	:	Covered in Poly bag
च) बंदर बंद या नहीं / i) Sealed or not	:	Not Sealed
ज) कोई अन्य सूचना / j) Any other information	:	--

भाग - ब / PART - B

अनुसूचक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ) नमूने संग्रहण कार्यवाही के संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
ब) माप करने के लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम b) Supporting documents for the measurement taken and result derived	:	As given in Part C.
क) संबंधित कार्य अनुदेशों के निर्धारित के अनुसार परीक्षण शैली से कोई परिवर्तन c) Deviation from the test method as prescribed in relevant work instructions, if any	:	No deviation from the standard

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(संयुक्त एवं उच्च शिक्षण, भारत सरकार)
गिन्दी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707



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Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

रिपोर्ट सं / REPORT NO. : 50307

परीक्षण रिपोर्ट
TEST REPORT

क्र.सं / SI. No. 8630

दिनांक / Date : 09.05.2016

भाग - १ / PART - C

परीक्षण परिणाम / TEST RESULTS

Test Duration: 05.04.2016 to 09.05.2016

Sl. No	Property	Standard	Unit	Results Obtained
1.	Heat reversion	EN 479	%	1.89
2.	Behaviour after heating @ 150°C	EN 478	-	No defects and no delaminations are observed visually
3.	Resistance to Impact by falling mass Height: 1500.0mm Weight: 1000.0g	EN 477	-	No failure
4.	Vicat softening temperature Method B @ 5kg load	ISO 306	°C	87.0
5.	Flexural strength @ 1.4mm/min	ASTM D 790	MPa	74.58
6.	Flexural modulus @ 1.4mm/min	ASTM D 790	MPa	3193.6
7.	Tensile strength @ 50mm/min	ASTM D 638	MPa	42.93
8.	Elongation at Break	ASTM D 638	%	15.69
9.	Charpy Impact strength (Notched)	ASTM D 256	KJ/m ²	No break @ 111.75

PART - D

REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

2 of 2

TSD1 to 10,000 / AWP / 18.02.2016

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(समस्त एवं जॉक नेशनल, भारत सरकार)
पिपेटो, चेन्नै - 600 032,
फोन : 22254701-06 फैक्स : 91-44-22254707



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Guindy, Chennai - 600 032, India.

Tel : 22254701-06 Fax : 91 - 44 - 22254707

E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

को जारी / Issued to :

**M/s. Captiv Fenestration,
SF.No. 207/1B & 1C,
Selakarachal Road Appanaickenpatti,
Sulur, Coimbatore - 641 402.**

क्र.सं / Sl. No. **12958** **53900**

रिपोर्ट सं / REPORT NO. :

Pages.....Nos. Part A,B,C & D

05.06.2017

दिनांक / Date :

संदर्भ / Ref. : **Dated: 23.05.2017**

परिीक्षण मानक स्तर के अनुसार परीक्षण रिपोर्ट / TEST REPORT AS PER TEST STANDARD : Refer Part C

भाग - क / PART - A

प्रस्तुत नैमित्त का विवरण / PARTICULARS OF SAMPLE SUBMITTED

- अ) नैमित्त का नाम / a) Name of the Sample : Profile sample
-as stated by the party
- ब) नैमित्त प्राप्त होने की तारीख / b) Date of Receipt of sample : 26.05.2017
- क) ग्रेड/प्रकार/आकार/वर्ग / c) Grade / variety / type / size / class : Not applicable
- द) घोषित मूल्य / d) Declared value, if any : Not applicable
- ख) कोड सं. / e) Code No. : Not applicable
- ग) बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture: Not applicable
- घ) मात्रा / g) Quantity : 01 Sample
- ङ) पैकिंग की रीति / h) Mode of Packing : Covered polythene cover
- च) मोहर बंद या नहीं / i) Sealed or not : Not Sealed
- ज) कोई अन्य सूचना / j) Any other information : -

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

- अ) नैमित्तिक कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure : Sampling not done by this lab
- ब) माप करने हेतु लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम
b) Supporting documents for the measurement taken and result derived : As given in Part C
- क) संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण रीति से कोई परिवर्तन
c) Deviation from the test method as prescribed in relevant work instructions, if any : No deviation from the standard

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(एकलव्य एवं ज्योतिष संस्थान, पारासर)।
गुन्डी, चेन्नई - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707



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E-mail : Chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

रिपोर्ट सं / REPORT NO. : **53900**

क्र.सं / Sl. No. **12958**

दिनांक / Date : **05.06.2017**

भाग - ग / PART - C

परीक्षण परिणाम / TEST RESULTS

Test Duration: 29.05.2017 to 05.06.2017

Sl. No	Property	Standard	Unit	Results Obtained
1.	Co-efficient of linear thermal expansion (30 to 60°C)	ASTM D 696	1/°C	3.82X10 ⁻⁶

PART - D


REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

2 of 2

12501 to 15000 / AMP / 09.03.2017


AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एंड टेक्नोलॉजी
(राज्य एवं जलक मंत्रालय, भारत सरकार)
केम्पों, चेन्नई - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707



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E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

**परीक्षण रिपोर्ट
TEST REPORT**

को जारी / Issued to :

**M/s. Captiv Fenestration,
Prominence UPVC Profiles,
SF.No.207/1B & 1C,
Selakarachal Road, Appanaickenpatti,
Sulur, Coimbatore – 641 402.**

क्र.सं / Sl. No. **14615**

रिपोर्ट सं / REPORT NO. **55229**

Pages.....२.....Nos. Part A,B,C & D

दिनांक / Date : **14.11.2017**

संदर्भ / Ref. : Dt. 24.10.2017

परीक्षण मानक स्तर के अनुसार परीक्षण रिपोर्ट / TEST REPORT AS PER TEST STANDARD ; Refer Part C

भाग - क / PART - A

उत्पन्न नमूने का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ) नमूने का नाम / a) Name of the Sample	:	UPVC Profile -as stated by the party
आ) नमूने प्राप्त होने की तारीख / b) Date of Receipt of sample	:	25.10.2017
इ) ग्रेड/प्रकार/आकार/वर्ग / c) Grade / variety / type / size / class	:	Not applicable
ई) घोषित मूल्य / d) Declared value, if any	:	Not applicable
उ) कोड सं. / e) Code No.	:	HS-01
ऊ) बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:	:	Not applicable
ए) मात्रा / g) Quantity	:	01 Sample
ए) पैकेजिंग की शैली / h) Mode of Packing	:	Packed in woven sack
ऐ) मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
जे) कोई अन्य सूचना / j) Any other information	:	---

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ) नमूने संग्रहण कार्यवाही के संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
आ) माप करने हेतु लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम b) Supporting documents for the measurement taken and result derived	:	As given in Part C
इ) संबंधित कार्य अनुदेशों में निर्दिष्ट के अनुसार परीक्षण विधि में कोई परिवर्तन c) Deviation from the test method as prescribed in relevant work instructions, if any	:	No deviation from the standard

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(लक्ष्मण एल जॉक रोड, गुन्दी, चण्डी)
गुन्दी, चेन्नई - 600 032
फोन : 22254701-06 फॅक्स : 91-44-22254707



**CENTRAL INSTITUTE OF PLASTICS
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(Ministry of Chemicals & Fertilizers, Govt. of India)

Guindy, Chennai - 600 032, India.

Tel : 22254701-06 Fax : 91 - 44 - 22254707

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रिपोर्ट सं / REPORT NO. : **55229**

**परीक्षण रिपोर्ट
TEST REPORT**

क्र.सं / Sl. No. **14615**

दिनांक / Date : **14.11.2017**

भाग - ग / PART - C

परीक्षण परिणाम / TEST RESULTS

Test Duration: 25.10.2017 to 14.11.2017

Sl. No.	Property	Standard	Unit	Results obtained
1.	Heat Stability Test* (Condition - 200°C for 30min)	--	--	No significant colour change is observed

***Note**

Heat stability test was carried out by using glass tube, thermostatically controlled heating method maintained at 200°C for 30 minutes using universal indicating paper with P^H 1 to 10.

PART - D

REMARKS - Nil

NOTE:

1. The results related only to the items tested as supplied by the party.
2. The test certificate shall not be reproduced in full except without the written approval of the laboratory.

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12501 to 15000 / ANP / 09.03.2017


AUTHORISED SIGNATORY