Tested by **Standards**
Certified by **Quality**

Accreditation from renowned organizations from Europe and UK,
for Accelerated Weatherability Test (Artificial weathering up to 10,000 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 **(20 GJ/m^2 @ 10000 Hours)**	DIN EN 513	ΔE not more than 5	1.9	SKZ-Germany & BSI-UK	18
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	24
Reduction in Charpy Impact Strength [Before & After Weathering]	DIN EN ISO 179 -1/1fA	Not More than 40%	10.4 %	SKZ-Germany	24
Vicat Softening Temperature	BS EN ISO 306:1997	Not less than 75°C	80°C	SKZ-Germany & BSI-UK	31
Heat Reversion @ 100 °C,60Minutes	BS EN 12608-1:2016	To comply as per EN 12608-1:2016	Pass	BSI- UK	36
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	37
Weld Strength(Individual Specimen)	BS EN 514:2000	Not less than 20 Mpa	25.32 Mpa	BSI- UK	38
Heat Aging @ 150°C,30 Minutes	BS EN 12608-1;2016	To comply as per EN 12608-1:2016	Pass	BSI- UK	38
RoHS	DIRECTIVE 2011/65/EU	Lead should not be detected	Not detected	SGS	41
Flammability	UL-94	10 Sec	V_0	CIPET	49
Limiting Oxygen Index (LOI)	ASTM D2863	45 %	47%	CIPET	50
Density	ASTM D 792	Not Exceed 1.5 gm/cc	1.46 gm/cc	CIPET	53
Thermal Conductivity	ASTM E-1530	0.12 to 0.25 W/mk	0.137 W/mk	CIPET	54
Co-efficient of Linear Thermal Expansion	ASTM D 696	Below 5x10^{-5}/°C	3.82x10^{-5}/°C	CIPET	59

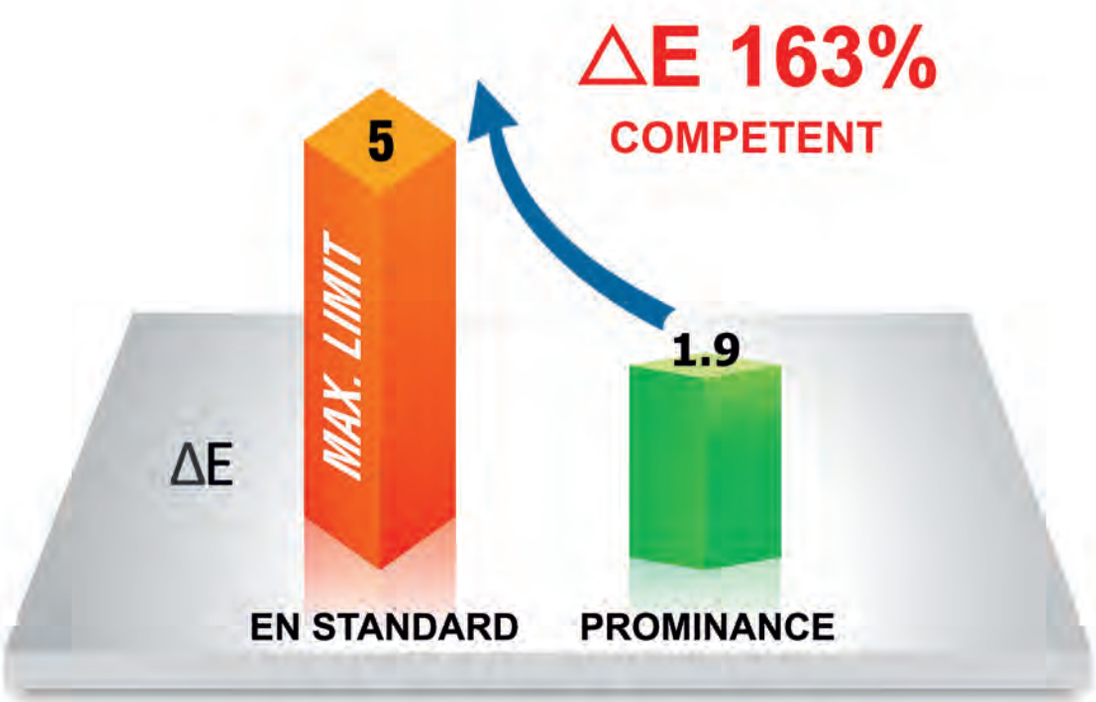
Accelerated Weathering Test (DIN EN 513)

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 10000 hours @20 GJ/m^2 of irradiation.

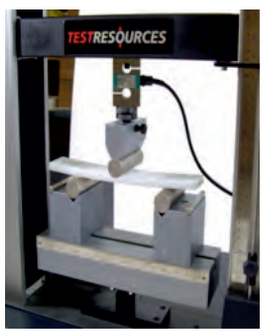
EN Standards vs PROMINANCE



CONSEQUENCES

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

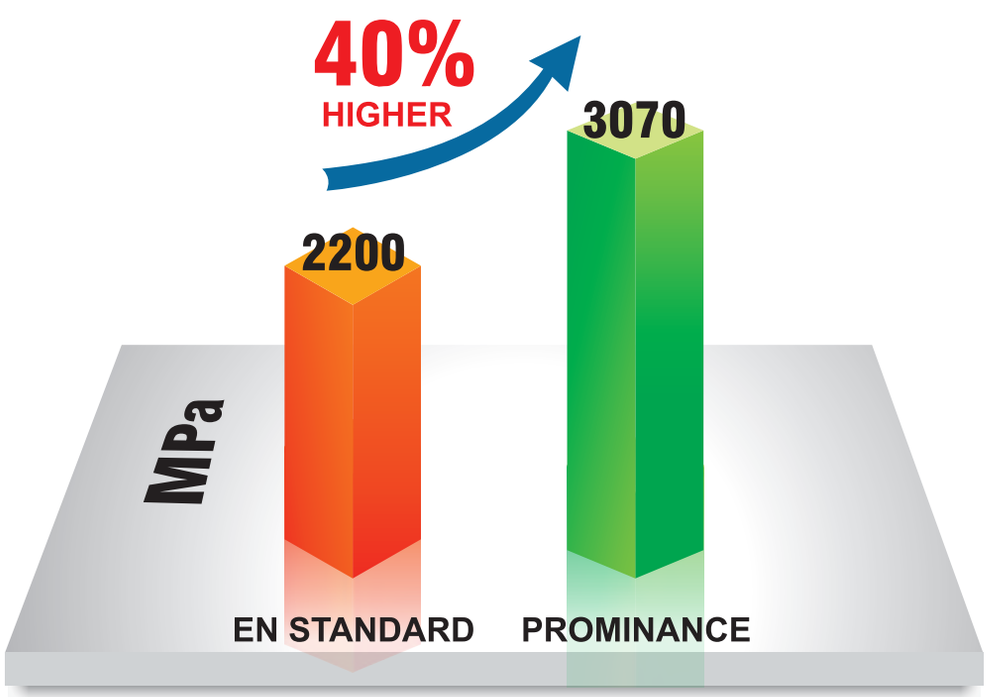
Flexural Modulus Of Elasticity Test (EN ISO 178)



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



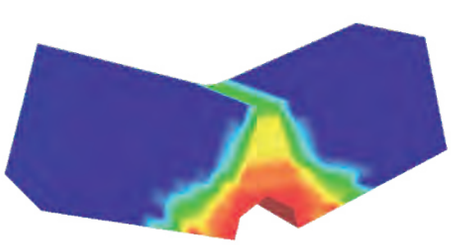
CONSEQUENCES

Poor Elasticity results into more brittleness and vulnerability.

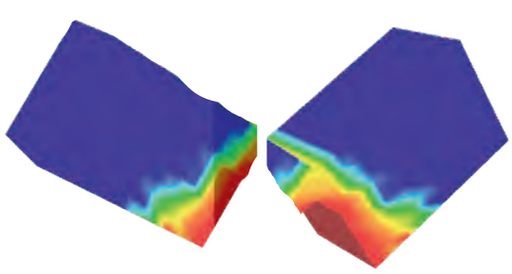
Charpy Impact Strength Test (EN ISO 179)

DEFINITION

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

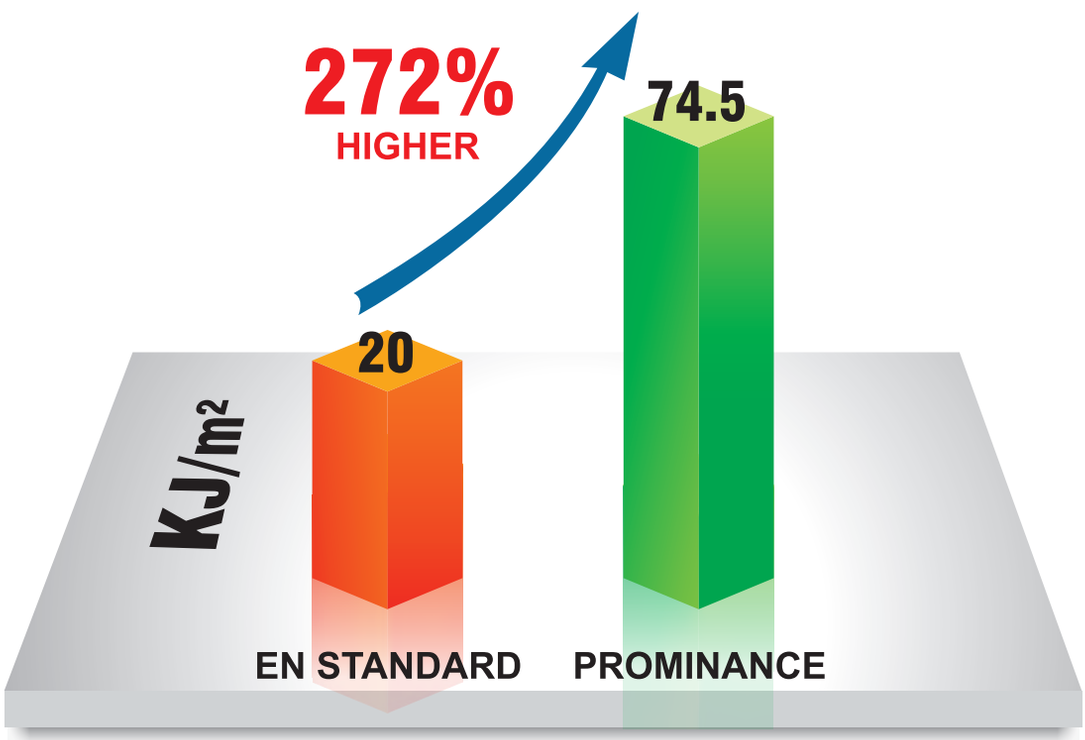


DUCTILE FRACTURE



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

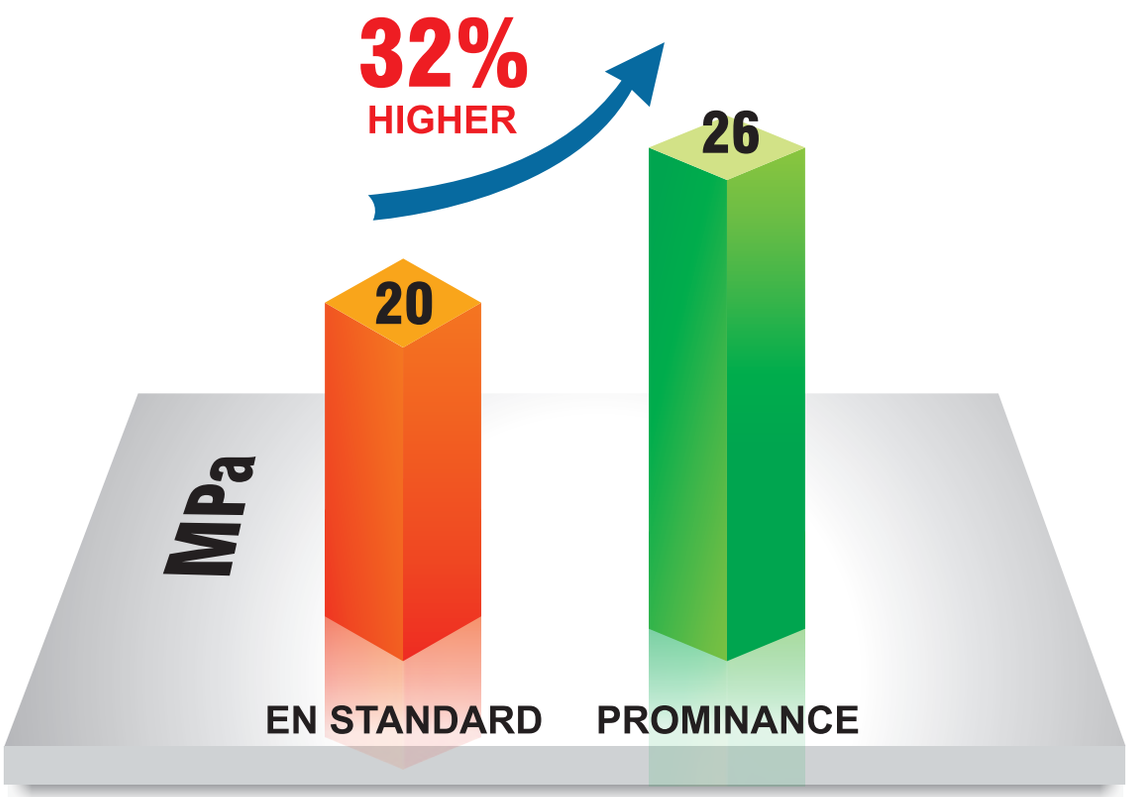
Poor impact strength results to brittle failure.

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

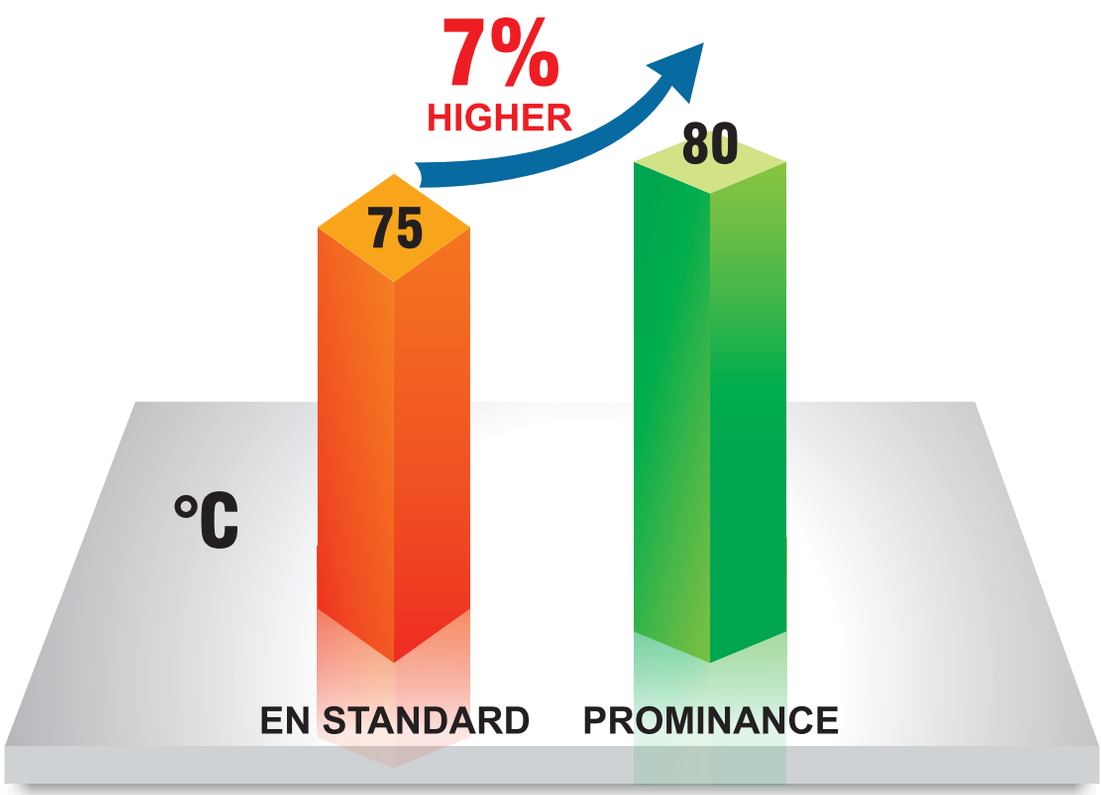
Low weld strength leads to weld cracks and panel cracks during transit and installation of Windows.

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

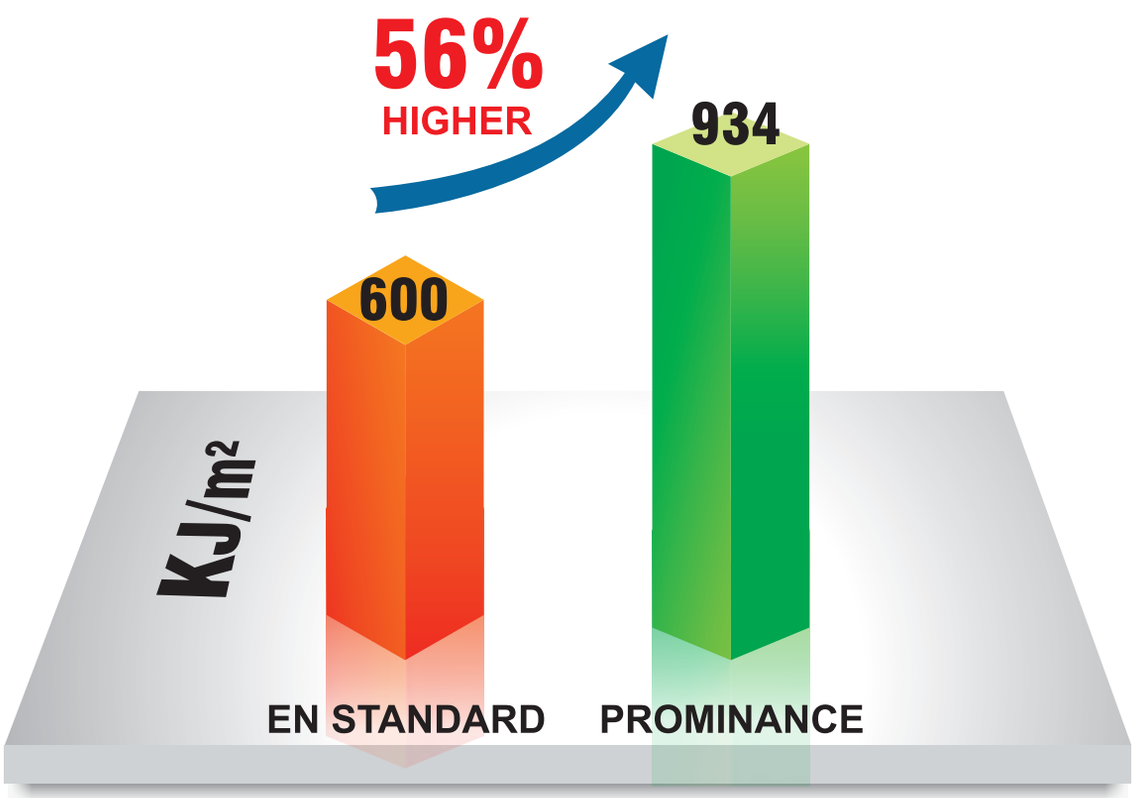
Lower VST indicates poor formulation strength and deteriorate on early stages. Windows may deteriorate even at lower temperature.

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^{o}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^{o}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

Prominance 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.

SKZ - Testing GmbH SKZ international akkreditiert

i. V.

Würzburg, 2016-10-17

Certification Body

Das Kunststoff-Zentrum

SKZ

Test report no.:	**122108/16**
Customer:	Prominance uPVC Profiles, Captiv Fenestration Appanaikenpatti, Sulur 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

International akkreditiert SKZ - Testing GmbH

i. A.
Wolfgang Ries

SKZ - Testing GmbH
Prüfung, Überwachung, Zertifizierung
Friedrich-Bergius-Ring 22
97076 Würzburg

Geschäftsführer
Dr.-Ing. Gerald Aengenheyster
HRB 7840
Amtsgericht Würzburg

Tel. +49 931 4104-0
Fax +49 931 4104-477
testing@skz.de
www.skz.de

DAkkS
Deutsche Akkreditierungsstelle
D-PL-19033-01-00
D-ZE-19033-01-00
D-IS-19033-01-00

SKZform 1020 - 9/15

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/mm²]	
Mean value from min. 5 individual measurements	Standard deviation
3070	64

Smallest individual value: 3010 N/mm^2

4.3 Tensile impact strength

Tensile impact strength in [kJ/m²]		
Mean value from 10 individual measurements	Standard deviation	Fracture behaviour
934	143	ductile

Smallest individual value: 770 kJ/m^2

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.

Das Kunststoff-Zentrum

SKZ

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

Prominance uPVC Profiles
Captiv Fenestration
Mr. Shan
Mr. Devarajan
Appanaikenpatti, Sulur
641402 Coimbatore, TAMIL NADU
INDIA

Wolfgang Ries
Tel.: +49(0)931 4104-126
Fax: +49(0)931 4104-271
w.ries@skz.de

10 November 2017 / sn

Test order no. 122109/16
Final results of the weathering fastness test according to DIN EN 12608-1: 2016-08

Dear Mr. Shan, dear Mr. Devarajan,

Please find below the following results of the final assessment of the weathering fastness test after artificial weathering of approx. **10,215** hours:

Irradiation energy: 20 GJ/m²

Artificial weathering according to (DIN) EN 513, procedure 2 (simulation of a severe climatic zone S) up to an raised irradiation dose of 20 GJ/m² in the wave length range between 300 nm and 800 nm.

1. Colourimetric assessment:

The sample colour was measured by means of a spectrophotometer of a wave length area of 360-750 nm, standard light type D65, 10° normal inspection. The colour distance ΔE^*_{ab} was determined according to DIN EN ISO 11664-4. Prior to and after artificial weathering, colour was measured at the same position on the sample to obtain reproducible results.

Please note that the colourimetric assessment of the structured foils can only be taken as a guide value.

Sample designation: **PROMINANCE PC62 US 04 21.04.16 19:25 AGRN L7**

Time of exposure	Dose of irradiation	Colour coordinates			Total colour distance
		Δ L*	Δ a*	Δ b*	Δ E^*_{ab}
1000 h	2 GJ/m²	0.5	0.1	-1.6	1.7
2000 h	4 GJ/m²	0.6	0.0	-1.3	1.4
3000 h	6 GJ/m²	0.7	0.0	-1.4	1.6
4000 h	8 GJ/m²	0.6	0.0	-1.6	1.7
5000 h	10 GJ/m²	0.6	0.0	-1.6	1.7
6000 h	12 GJ/m²	0.6	0.0	-1.6	1.7
7000 h	14 GJ/m²	0.6	0.0	-1.7	1.8
8140 h	16 GJ/m²	0.7	0.0	-1.7	1.8
9000 h	18 GJ/m²	0.7	0.0	-1.7	1.8
10215 h	20 GJ/m²	0.7	0.0	-1.8	1.9

2. Visual assessment

Visual assessment was performed according to DIN EN 20105-A02 with the grey scale.

Time of exposure	Dose of irradiation	Grey scale value		Remark
		A 02	A 03	
1000 h	2 GJ/m²	4	-	lighter
2000 h	4 GJ/m²	4 - 5	-	lighter, duller
3000 h	6 GJ/m²	4 - 5	-	lighter, duller
4000 h	8 GJ/m²	4 - 5	-	lighter, duller
5000 h	10 GJ/m²	4 - 5	-	lighter, duller
6000 h	12 GJ/m²	4	-	lighter, duller
7000 h	14 GJ/m²	4	-	lighter, duller
8140 h	16 GJ/m²	4	-	lighter, duller
9000 h	18 GJ/m²	4	-	lighter, duller
10215 h	20 GJ/m²	4	-	lighter, duller

If you have any questions, don't hesitate to contact me.

Best regards

SKZ - Testing GmbH

i. A.

Wolfgang Ries

ZERTIFIKAT

SKZ

Z122109/16

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

Prominance uPVC Dry Blend, CaZn

of producer

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

according to the results of test report no. 122109/16 dated 18 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 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, 2017-08-18

SKZ - Testing GmbH SKZ international akkreditiert

i. V.

Dipl.-Ing. Helmut Zanzinger
Certification Body

Das Kunststoff-Zentrum

SKZ

Test report no.: **122109/16**

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

Production site:
Prominance uPVC Profiles, Captiv Fenestration
Appanaikenpatti, Sulur
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. M. Heindl

Dr.-Ing. Marcus Heindl

International akkreditiert SKZ - Testing GmbH

i. A. W. Ries

Wolfgang Ries

SKZ - Testing GmbH
Prüfung, Überwachung, Zertifizierung
Friedrich-Bergius-Ring 22
97076 Würzburg

Geschäftsführer
Dr.-Ing. Gerald Aengenheyster
HRB 7840
Amtsgericht Würzburg

Tel. +49 931 4104-0
Fax +49 931 4104-477
testing@skz.de
www.skz.de

DAkkS Deutsche Akkreditierungsstelle
D-PL-19033-01-00
D-ZE-19033-01-00
D-IS-19033-01-00

SKZform 10.20 - 8.15

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/m²
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 to12 GJ/m²):

The mean value of Charpy notched impact strength at condition as delivered (unweathered) 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/m²]	s	$\bar{x}$ [kJ/m²]	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

Test Report 8572674.

Captiv Fenestration / Prominance UPVC Profiles

...making excellence a habit.

Introduction.

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

Job/Registration Details		Client Details
Job number:	**8572674**	Captiv Fenestration
Job type:	Testing Samples Submitted	Appanaikenpatti, Sulur
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	
M Manito	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	Casement 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

bsi.

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

UKAS TESTING
0135

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 45º 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	Assessment
PC 62-US-04	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	
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

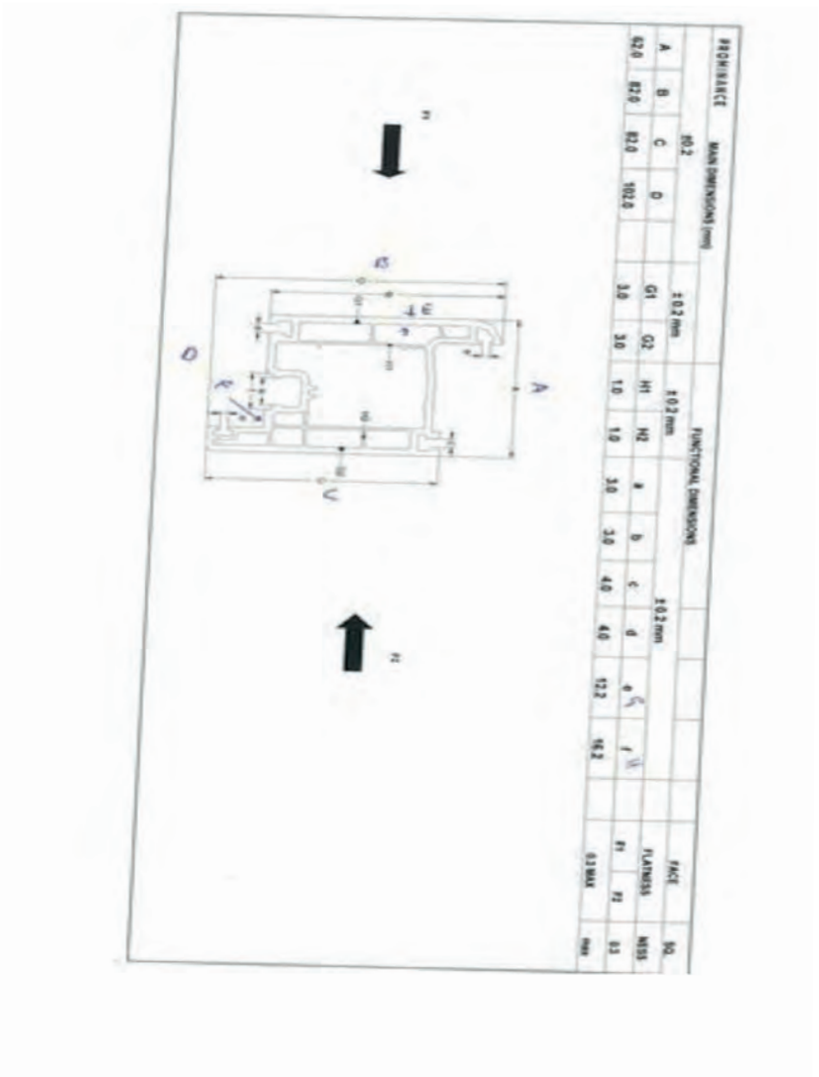
5.8 Weldability

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^4)	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.

Manufacturers Drawings.



...making excellence a habit.

Photograph of Samples.

End of Report

SGS

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/V0
COUNTRY OF ORIGIN	INDIA
SAMPLE RECD ON	09/08/2016 **TESTING PERIOD** : 12/08/2016 - 16/08/2016
TEST(S) REQUESTED	ROHS TEST

SGS India Private Ltd. SGS GURGAON

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 Patil
(Asst. Manager- Chemical)
Email your Test Report Related Enquiries at Feedback.HLT@sgs.com

SGS India Private Ltd. | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.: SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

SGS

TEST REPORT

Report No. : MAN:TR:7530011891 **DATE : 19/08/2016**

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

Test Item(s):	Unit	Test Method	Results	MDL	Limit
Cadmium(Cd)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Cd by ICP-OES)	n.d.	5	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Pb by ICP-OES)	n.d	5	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013 (Determination of Hg by ICP-OES)	n.d.	5	1000
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC 62321:2008 (Determination of CrVI by UV-VIS)	n.d.	2	1000
Sum of PBBs	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	**n.d.**	-	1000
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008	n.d	50	-

SGS India Private Ltd | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.: SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

SGS

TEST REPORT

Report No. : MAN:TR:7530011891 DATE : 19/08/2016

		(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 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008

(e) - = not regulated

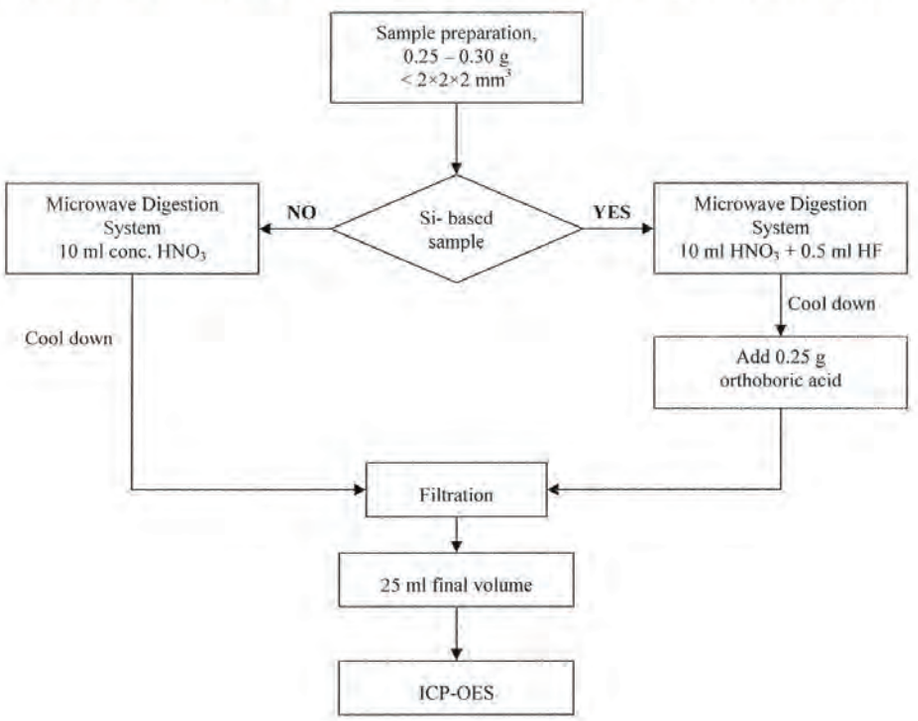
SGS India Private Ltd | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.: SGS House, 48, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 8640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

SGS

TEST REPORT

Report No. : MAN:TR:7530011891 DATE : 19/08/2016

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



Analyzed By: Suman Mandrwal **Checked By:Kapil Patil**

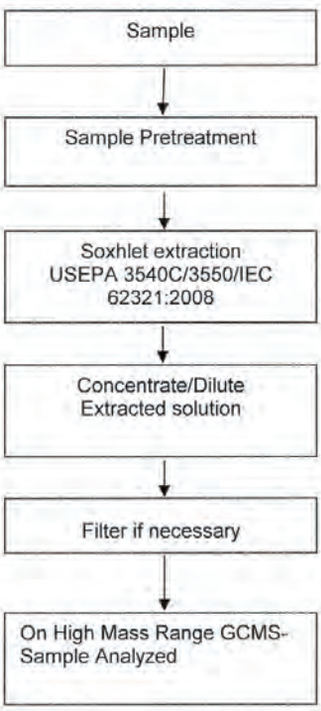
SGS India Private Ltd. | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.. SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

SGS

TEST REPORT

Report No. : MAN:TR:7530011891 DATE : 19/08/2016

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



Analyzed By: Suman Mandrwal **Checked By:Kapil Patil**

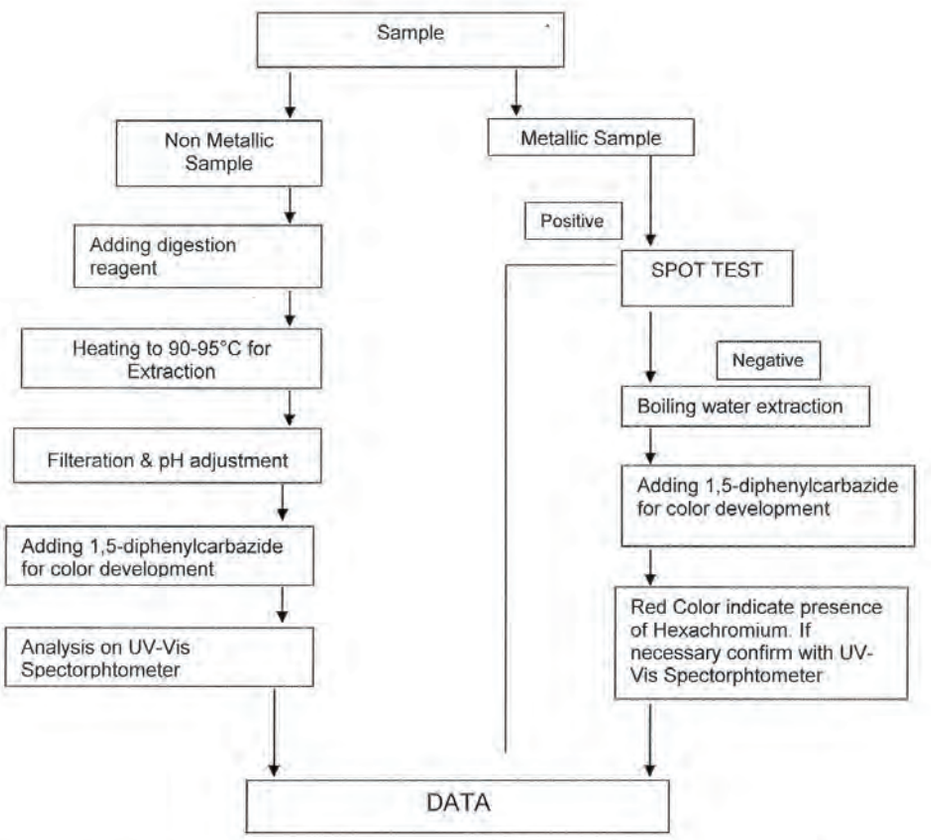
SGS India Private Ltd. | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678-7600
Regd. & Corp. Off.: SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

SGS

TEST REPORT

Report No. : MAN:TR:7530011891 **DATE : 19/08/2016**

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



Analyzed By: Suman Mandrwal **Checked By:Kapil Patil**

SGS India Private Ltd. | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.: SGS House, 48, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

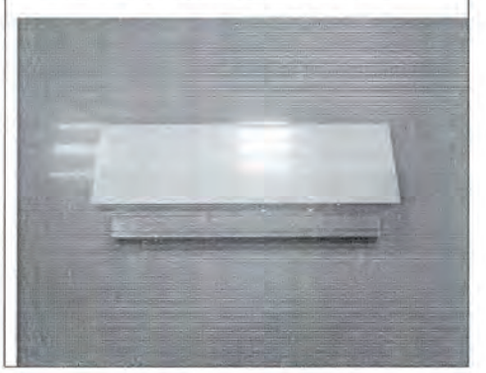
SGS

TEST REPORT

Report No. : MAN:TR:7530011891 **DATE : 19/08/2016**

Sample Photo: as received

Report No.: 7480011891



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 ***

SGS India Private Ltd. | Transportation, Plot No. 21, Sector -3, IMT Manesar, Pin-122050, Haryana, India. t : (91-124) 678 7600
Regd. & Corp. Off.: SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai - 400 083 t: (022) 6640 8888 f: (022) 6640 8829 www.sgs.com
Member of the SGS Group (SGS SA)

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032. India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

को ज़ारी / Issued to :

Prominance uPVC Profiles,
M/s. Captiv Fenestration,
S.F.No.207/1B, 1C, Selekarachal Road,
Appanaickenpatti, Sulur,
Coimbatore – 641 402.

क्र.सं / Sl. No. 10467

रिपोर्ट सं / REPORT NO. 51944

Pages.....वें.....Nos. Part A,B,C & D

दिनाक / Date : 27.10.2016

संदर्भ / Ref. : Dated: 15.10.2016

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

भाग - क / PART - A

प्रस्तुत सैंपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैंपिल का नाम / a) Name of the Sample	:	UPVC Profiles **-as stated by the party**
आ)	सैंपिल प्राप्त होने की तारीख / b) Date of Receipt of sample	:	18.10.2016
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.	:	F – PC62US04
ऊ)	बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:		Not applicable
ऋ)	मात्रा / g) Quantity	:	2 No's
ए)	पेंकिंग की रीति / h) Mode of Packing	:	Packed in carton pack
ऐ)	मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	:	--

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ)	सैंपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
आ) b)	माप करने हेतं लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम Supporting documents for the measurement taken and result derived	:	As given in Part C
इ) c)	संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण रीति से कोई परिवर्तन 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, 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. :** 51944

क्र.सं / Sl. No. 10467

दिनाक / Date : 27.10.2016

भाग - ग / **PART - C**

परीक्षण परिणाम / **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.

10,001 to 12,500 / AVP / 12.4.2016

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै – 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032. India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

को ज़ारी / Issued to :
M/s.Captiv Fenestration,
Prominance 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

दिनाक / 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 सैंपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैंपिल का नाम / a) Name of the Sample	:	Prominance UPVC Profile -as stated by the party
आ)	सैंपिल प्राप्त होने की तारीख / b) Date of Receipt of sample	:	01.05.2017
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.	:	L O I 1
ऊ)	बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:		Not applicable
ऋ)	मात्रा / g) Quantity	:	01 Sample
ए)	पैकिंग की रीति / h) Mode of Packing	:	Packed in polythene cover
ऐ)	मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	:	--

भाग – ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ)	सैंपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
आ)	माप करने हेतं लिए गए सहायक दस्तावेज एवं ाप्त परिणाम b) Supporting documents for the measure ne it taken and result derived	:	As given in Part C
इ)	संबंधित कार्य अनुदेशों में निर्धारित के अनुसार ि 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

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

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

दिनाक / 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.**

12501 to 15000 / AVP / 09.03.2017

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

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

क्र. सं / Sl. No. 9991

को जारी / Issued to :

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

रिपोर्ट सं / 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 सैंपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैंपिल का नाम / a) Name of the Sample	1) Profile Frame, Sash, Mullion 2) Compounded Material -as stated by the party
आ)	सैंपिल प्राप्त होने की तारीख / b) Date of Receipt of sample	16.08.2016
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.	Not applicable
ऊ)	बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:	Not applicable
ऋ)	मात्रा / g) Quantity	01 Box
ए)	पैकिंग की रीति / h) Mode of Packing	Packed in carton box
ऐ)	मोहर बंद या नहीं / i) Sealed or not	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	--

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ)	सैंपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure	Sampling not done by this lab
आ) b)	माप करने हेतं लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम Supporting documents for the measurement taken and result derived	As given in Part C
इ) c)	संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण रीति से कोई परिवर्तन 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

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

रिपोर्ट सं / REPORT NO. : 51393

क्र.सं / Sl. No. 9991

दिनाक / 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...

7501 to 10,000 / AVP / 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....

AUTHORISED SIGNATORY

CIPET
Chennai-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 appro,al of the laboratory.

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032. India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

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

क्र.सं / Sl. No. 8630
रिपोर्ट सं / REPORT NO. : 50307
Pages...2.....Nos. Part A,B,C & D
दिनाक / 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 सैंपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैंपिल का नाम / a) Name of the Sample	:	UPVC Profile samples -as stated by the party
आ)	सैंपिल प्राप्त होने की तारीख / b) Date of Receipt of sample	:	04.04.2016
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.	:	Not applicable
ऊ)	बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:		Not applicable
ऋ)	मात्रा / g) Quantity	:	2 Bundle
ए)	पेंकिंग की रीति / h) Mode of Packing	:	Covered in Poly bag
ऐ)	मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	:	--

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ) सैंपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure : Sampling not done by this lab

आ) माप करने हेतं 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 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, 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. : 50307**

क्र.सं / Sl. No. 8630

दिनाक / Date : 09.05.2016

भाग - ग / 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.

7501 to 10,000 / AVP / 18.02.2016

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032. India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

को ज़ारी / Issued to :

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

क्र.सं / Sl. No. 12958

रिपोर्ट सं / **REPORT NO. : 53900**

Pages....3.....Nos. Part A,B,C & D

दिनाक / Date : **05.06.2017**

संदर्भ / **Ref. : Dated: 23.05.2017**

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

भाग – क / PART - A

प्रस्तुत सैपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैपिल का नाम / a) Name of the Sample	:	Profile sample **-as stated by the party**
आ)	सैपिल प्राप्त होने की तारीख / b) Date of Receipt of sample	:	26.05.2017
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.	:	Not applicable
ऊ)	बैच सं. एवं निर्माण तारीख / f) Batch No. and Date of Manufacture:		Not applicable
ऋ)	मात्रा / g) Quantity	:	01 Sample
ए)	पैकिंग की रीति / h) Mode of Packing	:	Covered polythene cover
ऐ)	मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	:	--

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ)	सैपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure	:	Sampling not done by this lab
आ) b)	माप करने हेतं लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम Supporting documents for the measurement taken and result derived	:	As given in Part C
इ) c)	संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण रीति से कोई परिवर्तन 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै – 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

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

रिपोर्ट सं / **REPORT NO. :** **53900**

क्र.सं / Sl. No. **12958**

दिनाक / 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	/°C	$3.82X10^{-5}$

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.**

12501 to 15000 / AVP / 09.03.2017

AUTHORISED SIGNATORY

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स
इंजीनियरिंग एण्ड टेक्नोलॉजी
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

परीक्षण रिपोर्ट
TEST REPORT

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
(Ministry of Chemicals & Fertilizers, Govt. of India)
Guindy, Chennai - 600 032. India.
Tel : 22254701-06 Fax : 91 - 44 - 22254707
E-mail : chennai@cipet.gov.in Website : www.cipet.gov.in

को ज़ारी / Issued to :
M/s. Captiv Fenestration,
Prominance 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.....2.....Nos. Part A,B,C & D

दिनाक / 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

प्रस्तुत सैंपिल का विवरण / PARTICULARS OF SAMPLE SUBMITTED

अ)	सैंपिल का नाम / a) Name of the Sample	:	UPVC Profile -as stated by the party
आ)	सैंपिल 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
ऋ)	मात्रा / g) Quantity	:	01 Sample
ए)	पैकिंग की रीति / h) Mode of Packing	:	Packed in woven sack
ऐ)	मोहर बंद या नहीं / i) Sealed or not	:	Not Sealed
ओ)	कोई अन्य सूचना / j) Any other information	:	--

भाग - ख / PART - B

अनुपूरक सूचनाएँ / SUPPLEMENTARY INFORMATIONS

अ)	सैंपिलिंग कार्यवाहियों हेतु संदर्भ / a) Reference to sampling procedure	: Sampling not done by this lab
आ) b)	माप करने हेतं लिए गए सहायक दस्तावेज एवं प्राप्त परिणाम Supporting documents for the measurement taken and result derived	: As given in Part C
इ) c)	संबंधित कार्य अनुदेशों में निर्धारित के अनुसार परीक्षण रीति से कोई परिवर्तन 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
(रसायन एवं उर्वरक मंत्रालय, भारत सरकार)
गिण्डी, चेन्नै - 600 032.
फोन : 22254701-06 फैक्स : 91-44-22254707

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

रिपोर्ट सं / **REPORT NO. :** **55229**

क्र.सं / Sl. No. **14615**

दिनाक / 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.**

12501 to 15000 / AVP / 09.03.2017

AUTHORISED SIGNATORY

EMPOWERING ASSURANCE SYSTEMS

Certificate No: EAS/01Q/0617/0480

Certificate of Registration

This is to certify that the Quality Management System Of

CAPTIV FENESTRATION

S.F.No. 207/1B & 207/1C , Selakarichal Road,Appanaickanpatti,
Sulur Taluk, Coimbatore-641 402.

Has been successfully assessed & Comply with the following standard

ISO 9001:2015

Scope of Certification:

"Design, Manufacturing, Fabrication and Supply of UPVC Profiles, Windows and Doors"

*Initial Issue Date : 08th June' 2017**
Valid From : 08th June' 2017
*Valid To : 07th June' 2018**

Certificate is valid for Three years (08th June' 2017 to 07th June' 2020) from the date of Initial registration. Upon successful completion of Surveillance audit a new certificate with an extended Validity will be issued. This certificate is property of EAS and shall be returned immediately on request.

EAS EMPOWERING ASSURANCE SYSTEMS

JAS-ANZ

www.jas-anz.org

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Certifying Authority

1495/1, Manasarovar, 16th Main Road, Anna Nagar West, Chennai - 600 040. Tamil Nadu, India. Ph : +91 44 26162670
E-mail : info@easiso.com
Website : www.easiso.com