

Registration Certificate

(Certificate of Conformity)

Quality Management System

Quality Management System has been assessed and registered
as complying with the requirement of the International Standard

ISO 9001:2000

Quality Management Systems Requirements

Registration Certificate No : 4085

Issued by the Board of Directors

Chairman:



Original date: 2 February 2009

Expiry date: 2 February 2012

Refer to Schedule A for the Scope and Field of Application

Subject to satisfactory Surveillance Assessments

Issued by DLIQ Certification Services
Head Office, Level 21, 350 Queen Street, Melbourne VIC 3006, Australia
Please email dlq@dlqindia.com to check the validity of this certificate

IAS-ANZ



This certificate and certification mark remain the property of DLIQ.
Accredited by the Joint Accreditation System of Australia and New
Zealand Ass. No. SA/000004N.



**Quality
Endorsed
Company**

Registration Certificate

(Certificate of Conformity)

Environmental Management System

Environmental Management System has been assessed and registered as complying with the requirement of the International Standard

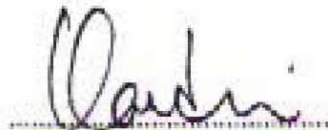
ISO 14001:2004

Environmental Management Systems
-Requirements with guidance for use

Registration Certificate No : 4085

Issued by the Board of Directors

Chairman:



Original date: 2 February 2009
Expiry date: 2 February 2012

Refer to Schedule A for the Scope and Field of Application

Subject to satisfactory Surveillance Assessments

Issued by DLIQ Certificate Services
Head Office, Level 20, 100 Queen Street, Melbourne VIC 3000, Australia
Please email dliq@dligindia.com to check the validity of this certificate



**Environmental
Management**

IAS-ANZ



This certificate and certification mark remain the property of DLIQ.
Accredited by the Joint Accreditation System of Australia and New
Zealand Act. No. 81294/03/AM. Valid for three (3) years.

Registration Certificate

(Certificate of Conformity)

Occupational Health and Safety Management System

Occupational Health and Safety Management System has been assessed and registered as complying with the requirement of the International Standard

OHSAS 18001

*Occupational Health and Safety Management
- Requirements with guidance for use.*

Registration Certificate No : I.1323

Issued by the Board of Directors

Director : 

Original date: 2 February 2009
Expiry date: 2 February 2012

Refer to Schedule A for the Scope and Field of Application

Subject to satisfactory Surveillance Assessments

Issued by DLIQ Certificate India
21, Paharpur Business Centre, Nehru Delhi - 110019 India.

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**Health and
Safety Management
System**



SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

An ISO - 9001:2000 Certified Institute

TEST CERTIFICATE

000004736

Issued to :

14, GARDHI ROAD
DEHRADUN - U.P.

J.O.No. 601-171-0401
Reg.No. 1146681
Date 30-01-2006
GC-01 (REV-04)

Your Ref.No.


Sample Particulars :

One Sample described as Aluminum Composite Panel ,was received.

Date 09.01.2006


TEST RESULTS

S.No.	Tests	Observation	Protocol Adopted Equipment Used
A.	General Properties		
1.	Density , gm/cm ³ (at 25 ± 1 ° C)	1.38	Guidelines ASTM D 792 - 91
2.	Specific Gravity (at 27 ° C)	1.39	Guidelines ASTM D 792 - 91
3.	Panel Weight , Kg/m ²	5.67	Weighting balance & Scale
4.	Tensile Strength , N/mm ²	51	Guidelines ASTM E 8
5.	Yield Stress , N/mm ²	45	- do -
6.	Elongation at break , (%) (Gauge Length = 50mm)	10.3	- do -
7.	Thickness of Composite Panel , mm	4.03	Micrometer
8.	Impact Test(Dent Depth) , mm (500 gm Ball from 500mm Height)	0.3	(Impact Test by DU PONT Method)
9.	Thickness of Top Aluminum , mm (Including Coating)	0.51	Micrometer
10.	Thickness of Back Aluminum , mm (Including Coating)	0.51	Micrometer
11.	Thickness of PVDF Coating, Micron	27 - 30	Guidelines ASTM D 1400
12.	Thickness of Back Coating, Micron	7 - 10	Guidelines ASTM D 1400
13.	Adhesion test (Cross Cut Tape Test)	Satisfactory (The edge of the cuts are completely smooth none of the squares of the lattice is detached)	Guidelines As Per ASTM D 3359
14.	Chemical Analysis (% by Mass)		
i.	Iron	0.21	Guidelines as per IS:504-1963 & A.A.S
ii.	Magnesium	0.10	- do -
iii.	Copper	0.07	- do -
iv.	Manganese	0.02	- do -
v.	Aluminum(by difference)	99.4	- do -


AUTHORISED SIGNATORY
(EMPLOYEE CODE: B060)

TEST REPORT FOR ACP

S.N.	TEST	ASTM Standard	UNIT	RESULT
1. Physical Properties of Aluminum Composite Panels				
1.	Composite Panel thickness	Visual Check	mm	4.07
2.	Colour			Silver
3.	Aluminum foil thickness	Visual Check	mm	0.55
4.	Weight/meter	Visual Check	Kg/ m ²	5.8
5.	Density	Visual Check	g/cm ³	1.42
2. Mechanical Properties of Aluminum Composite Panels				
6.	Tensile strength	E 8	N/mm ²	37
7.	Yield strength	E 8	N/mm ²	29.2
8.	% Elongation	E 8	%	7.2
9.	Peel strength	D 903	N/mm	6.58
10.	Punch Shear Stress	D 732	N/mm ²	15.5
3. Mechanical Properties of Aluminum Foil Skin				
11.	Tensile strength	E 8	N/mm ²	126.1
12.	Yield strength	E 8	N/mm ²	100.98
13.	% Elongation	E 8	%	4.6
14.	Modulus of Elasticity	E 8	N/mm ²	71000


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Powai, Mumbai-400 076, India.

IIT Bombay

4. Properties of the Coating			
15	Coating Type and thickness of Bright Silver		PVDF 28
16	Specular Gloss	D 4214	32.5
17	Gloss Retention* (1000h)	D 4214	95.2
18	Colour Retention* (1500h)	D 2244	0.5
19	Chalking Resistance* (1500h)	D 4214	No Chalking was observed
20	Salt Spray** (1500h)	B 117	No Damage was seen
21	Humidity** (1500h)	D 2247	No Damage was seen
22	Pencil hardness		4H
23	Tafer abrasion	D 4060	Weight loss in mg per 1000 cycle 12
24	Impact	D 2794	27 joules Passes
25	Film adhesion a) Dry b) Wet c) Boiling water	D 3369	5B 5B 5B (Excellent Adhesion)
26	Chemical resistance b) 37% HCl c) 25% NaOH	D 543	Immersion time 15 minutes 30 minutes Passes Passes

*Test in continuation for 4000h

**Test in continuation for 3000h


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