mapl acp panel

Attention • Attraction • Affection

TECHNICAL
DETAIL





The Technical Roadmap is The key to Excellence

TECHNICAL

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INTRODUCTION

MAPL aims to provide excellent exterior and interior solutions that are governed by the technology

OVERVIEW

MAPL asks for more! Manufacturing the product and selling it isn't enough. We need more than that. That 'more' is the magic – Quality and Commitment. It really needs to be strengthened at core level. That's one of the reasons why MAPL is a strong organization.

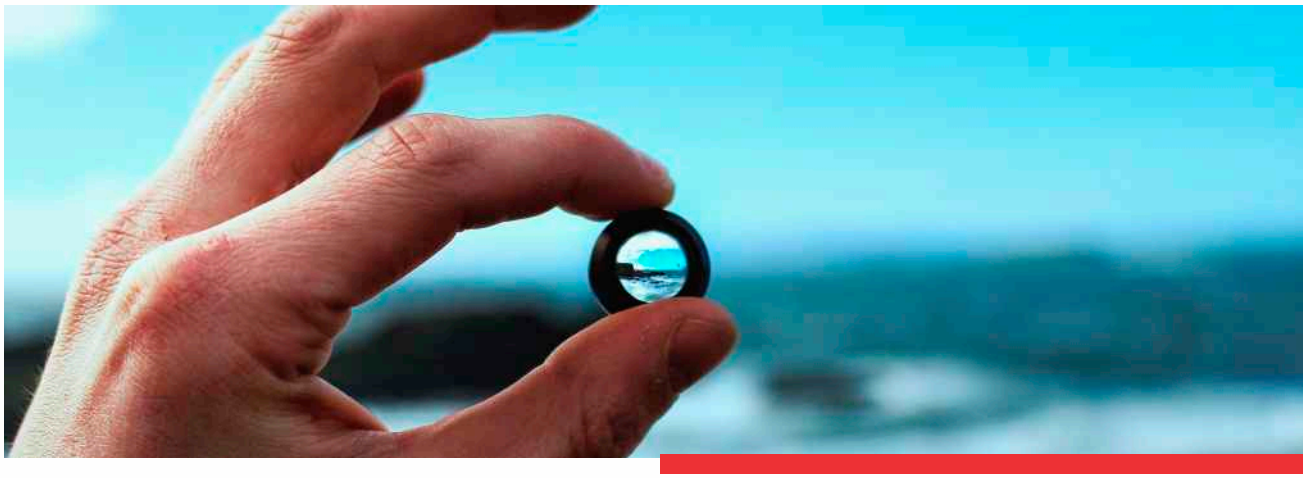
MAPL, after enjoying success with Aluminium Extrusion, Maa Panel (India) Pvt. ltd. is now exploring new avenues by creating an exclusive range in the Aluminium Composite Panel industry as well. M/s Maa Panel (India) PVT. LTD. is one of the leading manufacturers of Aluminium composite panels (ACP) in India. with the state-of-art plant at Sabarkhantha in Gujarat under the brand 'MAPL'. MAPL is also accredited with ISO 9001-2015 & ISO 14001:2004 certification and certified by India's most reputed testing institutions.

Our manufacturing facilities feature a perfect ergonomic design and industrial output by team of proficient men aided by world class machines.

VISION

To Be Undisputed Market Leader In Aluminum Elevation Industry By Providing Trending Exterior & Interior Architectural Products With Consistent Quality And By Creating Value Proposition For Customers And Stake Holders.





MISSION

- Produce Benchmarking Exterior & Interior Decorative Material. We Continue To Meet The Changing Needs Of Our Clients With Our Services Delivered By The Most Qualified People.
- To Deliver Quality with Consistency for Developing And Nourishing Trust Of Our Customers; To Be Accountable For What We Produce.
- To Be Devoted To The Customers & Stake Holders; To Create Collaborative Culture For All Employees To Have Professional And Personal Growth.
- MAPL is committed to build Long Terms Relationships Based on Integrity, Performance and Value with Client Satisfaction.

VALUE

- **Collaboration** : Coming Together Is A Beginning; Keeping Together Is Progress; And Working Together Is A Success. We have implemented these lines of Henry Ford at MAPL and our people are committed to it.
- **Passion** : Passion Defines The Intention of People. The More Passionate You Are, The More Landmarks You Cross At The End. We Live This Policy At MAPL.
- **Quality** : We Strive for Excellence through Continuous Improvement.
- **Integrity** : Our Processes, People and Performance Derive From One Phrase, We Call It Integrity. We Try To Build Every Product With A Sense Of Reliability.
- **Enjoy The Journey** : At MAPL, We Are Not Only Focused On The Finish Line That We Forget To Enjoy The Journey. Our People Achieve The Goals While Making The Journey Memorable.



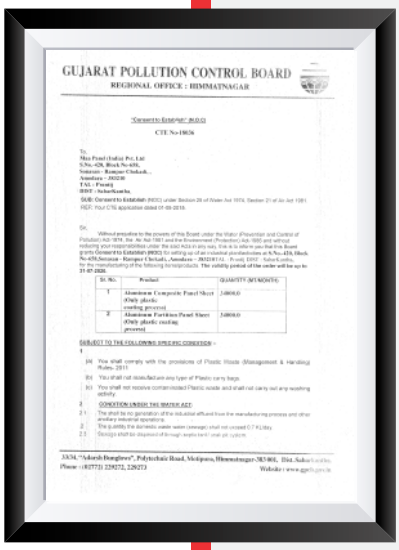
MANUFACTURING FACILITIES

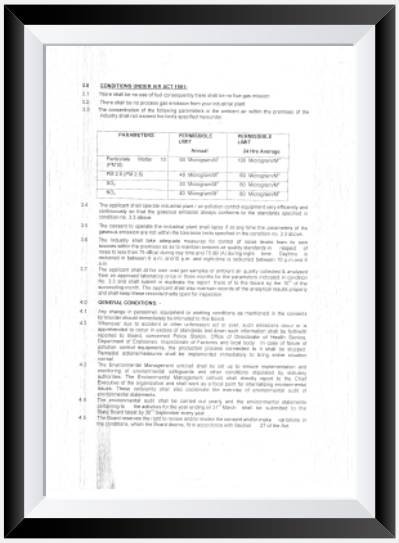
Quality is ensured at every stage right from the input materials to the finished product.

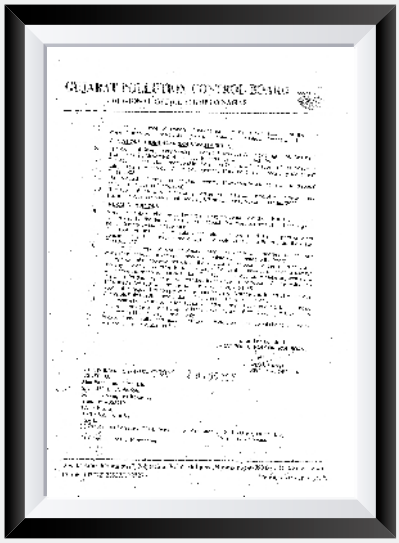
MANUFACTURING FACILITIES

MAPL is having a state-of-art manufacturing facility to produce world class ACP's. The line are PLC controlled with self diagnostics capability. MAPL is equipped to produce over 6500 Sq. mtr. of ACP's per day and is in the process of enhancing the capacity upwards in near future to cater overseas market dynamically by trained and experienced professional technocrats.

MAPL offer a wide range of ACP's for exterior and interior applications. Plant is having manufacturing facility to produce Aluminium Composite Panels ranging from 2 mm to 6 mm thickness, with Aluminium skin ranging from0.18mm to 0.5mm, with tailor made width and length up to 1240 mm and 1550 mm in PVDF paint for exterior applications and Polyester for interior applications.


GUJARAT POLLUTION CONTROL BOARD
REGIONAL OFFICE : HIMMATNAGAR











New generation Aluminium Composite Panels

TESTING FACILITIES

The customer is at the center in our activities and thoughts. This important guiding principle is not a platitude, but is resolutely translated into practice. With this customer-oriented approach and manner of working, we always ensure that MAPL, India, products unite all the customer's wishes and do justice to their specific requirements. To achieve this, we are having ultra modern Test Lab consisting of highly sophisticated and precise test equipments. With these wide variety of tests at different environmental conditions which are simulated in the test lab, our finished product meets all international standards.



MELT FLOW INDEX TESTER



PRESTO TENSILE TESTING



To ensure quality and reliability of our product, we set a standard parameter for product testing, we are able to set technical standards for our products in order to produce high-quality ACP.



COLOR CABINATE











VISION, QUALITY AND ASSURANCE

At MAPL, we firmly believe that the success of business depends on providing high quality products and services to all valued customers through efforts of its team members.

Quality Management is practiced from the top management to the lower most position in the product realization process. Quality is ensured at every stage right from the input materials to the finished product. The four stages of quality assurance are as below:

> Pre Production Quality Assurance
> In-process Control
> Post Production Quality Assurance
> Despatch Quality Assurance

PRE-PRODUCTION QUALITY ASSURANCE

All received raw material are inspected thoroughly before issuing to production. Each raw material cross strict Quality Control[1] specifying quality standard.

IN-PROCESS CONTROL

Each process of production, quality is ensured by rigorous checking process. All standard parameters are verified and recorded during the production, to ensure high quality of production.





POST PRODUCTION QUALITY ASSURANCE

Before sending the production to stock yard final inspection is always done to verify that product has crossed all the parameters of quality standard and norms. Always proper batch coding is given to the production, shift vise and day vise by video jet laser printing on the back of every ACP sheets, which gives a complete data information of all inputs of raw materials used during production.

DISPATCH INSPECTION

To get the extra mileage of customer satisfaction and confidence, dispatch dept. always ensure that best of material to be received by our customer.

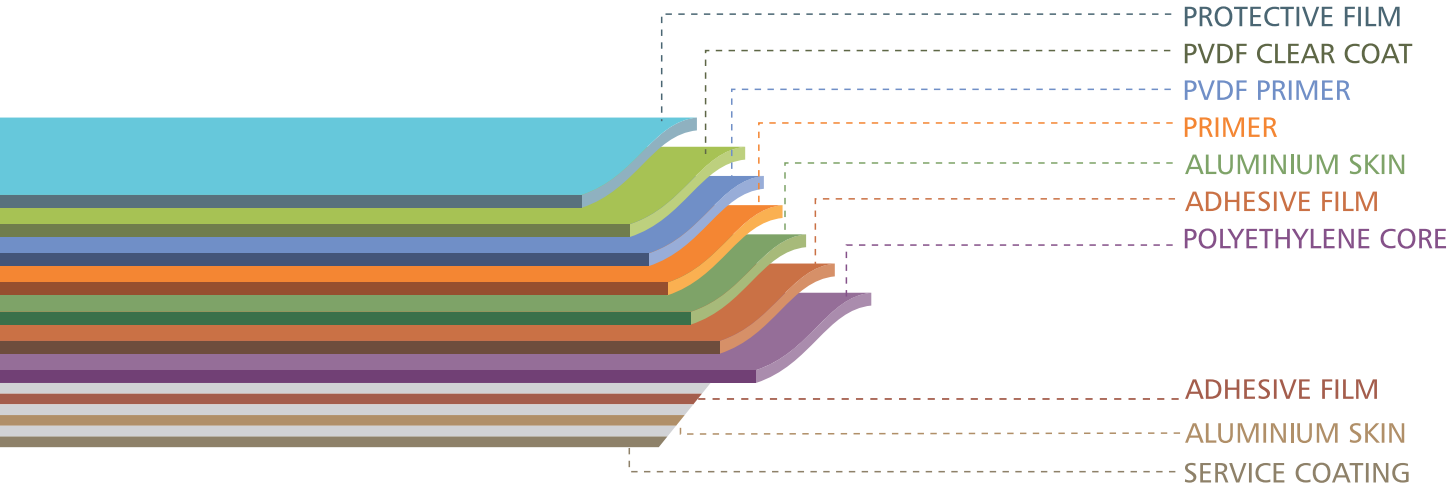
PRODUCT

Aluminium Panel sheet (ACP) is a cladding material used for external facades & interiors of Modern style of living standard. ACP consists of an extruded Polyethylene core sandwiched between two Aluminium sheets.



PRODUCT FEATURE

- Light weight and rigid
- Weather proof
- Excellent flatness
- Versatility
- High impact resistant
- Uniform colour
- Sound and thermal resistant
- Fire resistant
- Water, chemical and corrosion resistant





CERTIFICATIONS

We are proud of our achievements, which demonstrate our commitment to excellence to our clients.



GOVERNMENT OF GUJARAT

Vibrant GUJARAT 10-13 Jan 2017
Connecting India to the World | 8th Global Summit

Certificate of Investment Intention

maa panel india pvt ltd

Expressed interest for investment in Gujarat in
Engineering, Auto and Other Industries

In the district of **Sabarkantha**
Government of Gujarat welcomes the proposal.
We extend our best wishes and support for successful implementation of the project.

Industries Commissioner
Government of Gujarat
263522

CERTIFICATE OF INVESTMENT INTENTION



BMSCERT
Quality Assessors

CERTIFICATE OF REGISTRATION

This is to certify that the Environment Management System of

Maa Panel (India) Private Limited
Survey No.420, Block No.658, Opp. B.R.S. College, At. Amodra,
Ta. Prantij, Pin-383 310, Dist. Sabarkantha, Gujarat (India)

has been assessed and approved in accordance with the guidelines of

ISO 14001:2015

for the following areas

Manufacturing and Supply of Aluminium Composite Panel Sheet

Certified Location: Survey No.420, Block No.658, Opp. B.R.S. College, At. Amodra, Ta. Prantij, Pin-383 310, Dist. Sabarkantha, Gujarat (India)

Validity of this certificate can be verified at www.bmscert.org/verify

Director Director

Initial Registration Date: February 20, 2018
Date of Certificate: February 20, 2018
Valid Upto: February 19, 2019
Recertification Due: February 19, 2021

E-1124/18
Certificate No.

IAF DAC CB 005 BMSCERT Quality Assessors

317, Aggarwal Modern Bazar, C-33, Lawrence Road, Delhi-35, India
Ph. : +91-9310501017, +91-9310131005, Website : www.bmscert.org, email : info@bmscert.com

ISO 14001:2015



BMSCERT

CERTIFICATE OF REGISTRATION

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Maa Panel (India) Pvt. Ltd.

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Validity of this certificate can be verified at www.bmscert.org/verify

Director

Director

Initial Registration Date: May 08, 2017
Date of Continuation: April 23, 2019
Valid Upto: May 07, 2020
Recertification Due: May 07, 2020

Q-3923/17
Certificate No.

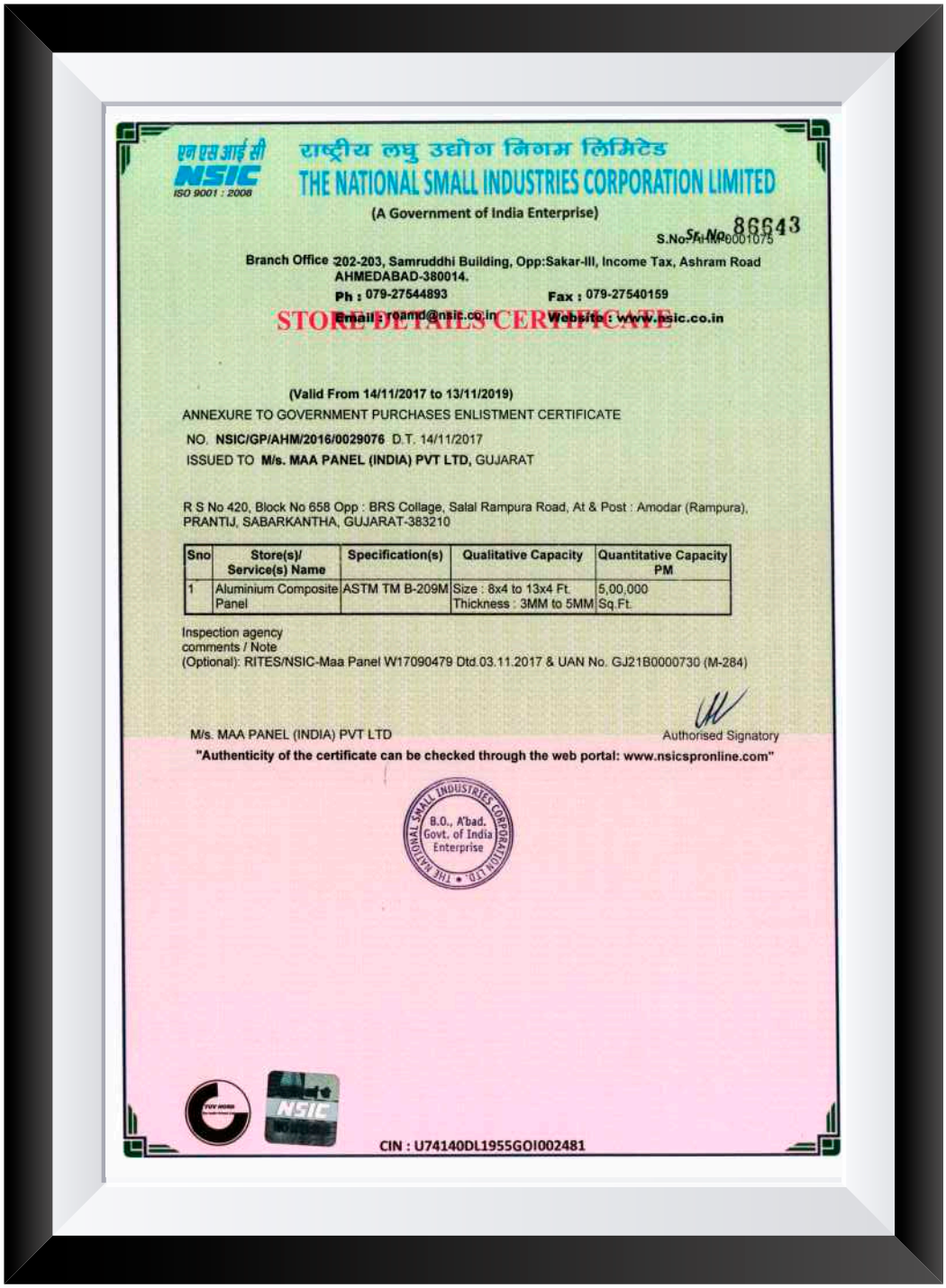
IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

eiaci

BMSCERT Quality Assessors

317, Aggarwal Modern Bazar, C-33, Lawrence Road, Delhi – 35, India
Ph. 91-9310501017, +91-9310131005, Website: www.bmscert.org, email : info@bmscert.org

BMS CERTY



एन एस आई सी
NSIC
ISO 9001 : 2008

राष्ट्रीय लघु उद्योग निगम लिमिटेड
THE NATIONAL SMALL INDUSTRIES CORPORATION LIMITED
(A Government of India Enterprise)

S.No. AHM/0001075 Sr. No. 86643

Branch Office 202-203, Samruddhi Building, Opp:Sakar-III, Income Tax, Ashram Road
AHMEDABAD-380014.
Ph : 079-27544893 Fax : 079-27540159
Email : roamd@nsic.co.in Website : www.nsic.co.in

STORE DETAILS CERTIFICATE

(Valid From 14/11/2017 to 13/11/2019)

ANNEXURE TO GOVERNMENT PURCHASES ENLISTMENT CERTIFICATE

NO. **NSIC/GP/AHM/2016/0029076** D.T. 14/11/2017

ISSUED TO **M/s. MAA PANEL (INDIA) PVT LTD,** GUJARAT

R S No 420, Block No 658 Opp : BRS Collage, Salal Rampura Road, At & Post : Amodar (Rampura), PRANTIJ, SABARKANTHA, GUJARAT-383210

Sno	Store(s)/ Service(s) Name	Specification(s)	Qualitative Capacity	Quantitative Capacity PM
1	Aluminium Composite Panel	ASTM TM B-209M	Size : 8x4 to 13x4 Ft. Thickness : 3MM to 5MM	5,00,000 Sq.Ft.

Inspection agency comments / Note (Optional): RITES/NSIC-Maa Panel W17090479 Dtd.03.11.2017 & UAN No. GJ21B0000730 (M-284)

M/s. MAA PANEL (INDIA) PVT LTD

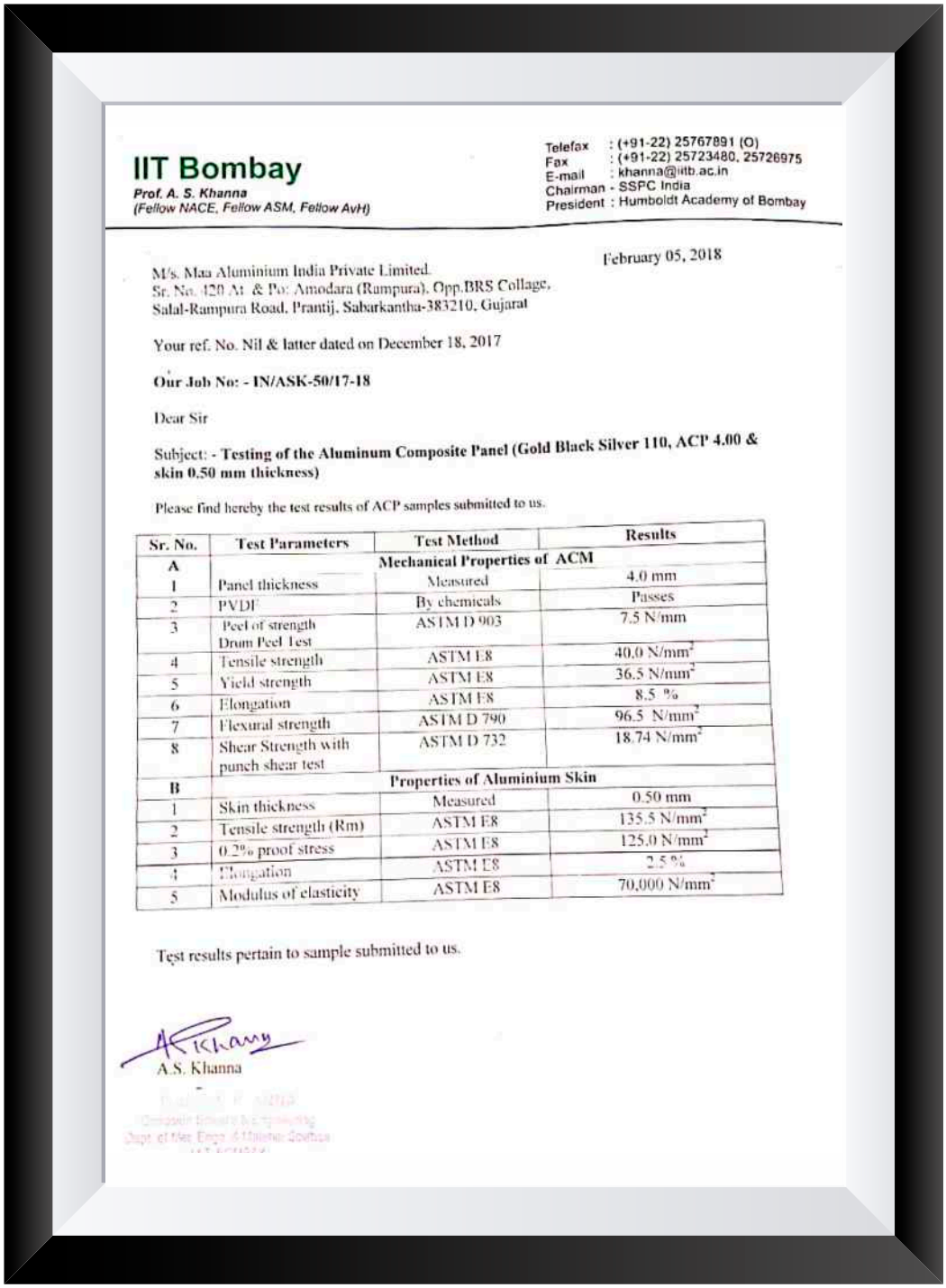
Authorised Signatory

"Authenticity of the certificate can be checked through the web portal: www.nsicspronline.com"

THE NATIONAL SMALL INDUSTRIES CORPORATION LTD. • B.O., A'bad. Govt. of India Enterprise

CIN : U74140DL1955GOI002481

NSIC



IIT Bombay
Prof. A. S. Khanna
(Fellow NACE, Fellow ASM, Fellow AvH)

Telefax : (+91-22) 25767891 (O)
Fax : (+91-22) 25723480, 25726975
E-mail : khanna@iitb.ac.in
Chairman - SSPC India
President : Humboldt Academy of Bombay

February 05, 2018

M/s. Maa Aluminium India Private Limited.
Sr. No. 420 At & Po: Amodara (Rampura), Opp.BRS Collage,
Salal-Rampura Road, Prantij, Sabarkantha-383210, Gujarat

Your ref. No. Nil & latter dated on December 18, 2017

Our Job No: - IN/ASK-50/17-18

Dear Sir

Subject: - **Testing of the Aluminum Composite Panel (Gold Black Silver 110, ACP 4.00 & skin 0.50 mm thickness)**

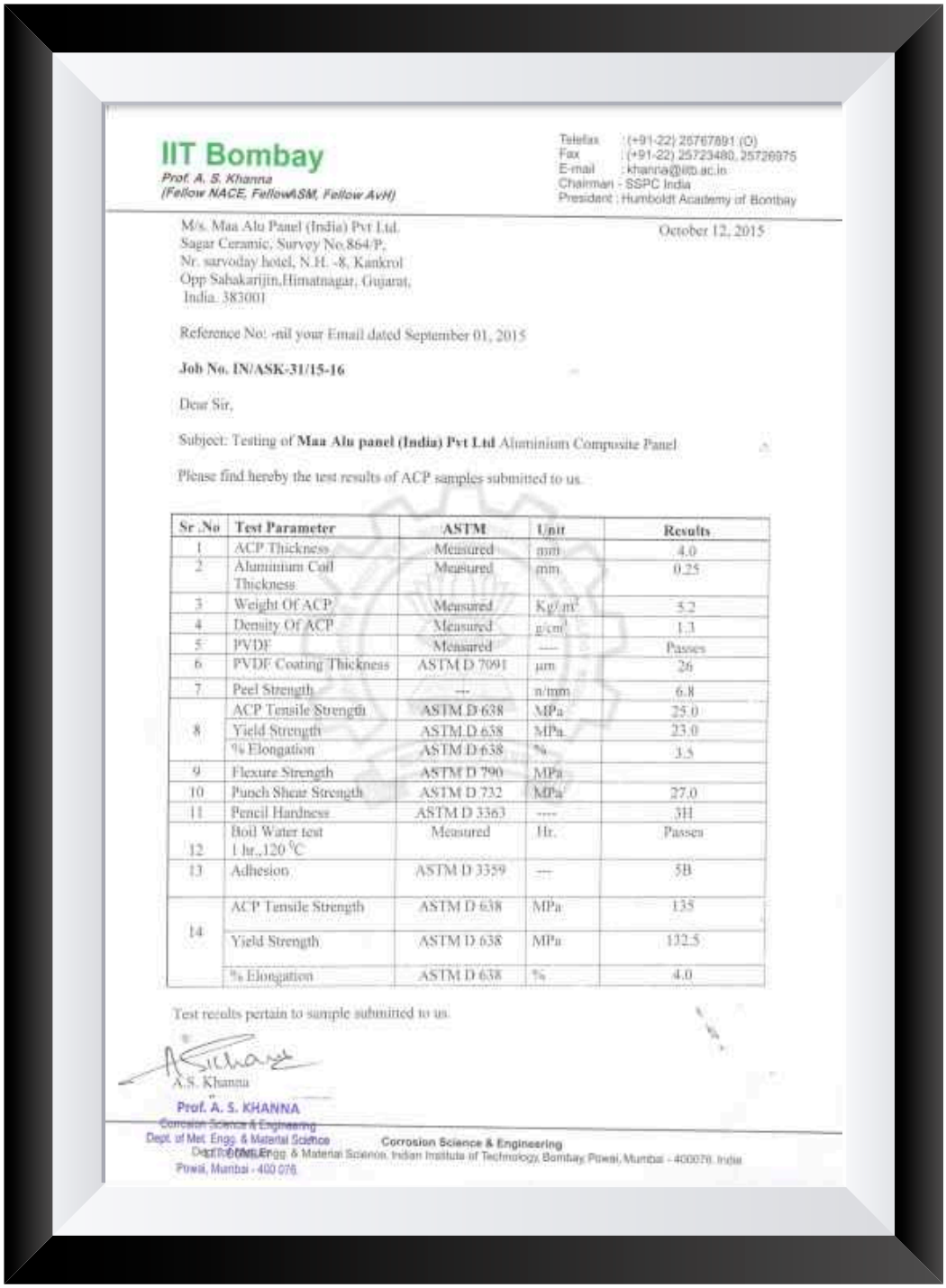
Please find hereby the test results of ACP samples submitted to us.

Sr. No.	Test Parameters	Test Method	Results
A	**Mechanical Properties of ACM**		
1	Panel thickness	Measured	4.0 mm
2	PVDF	By chemicals	Passes
3	Peel of strength Drum Peel Test	ASTM D 903	7.5 N/mm
4	Tensile strength	ASTM E8	40.0 N/mm^2
5	Yield strength	ASTM E8	36.5 N/mm^2
6	Elongation	ASTM E8	8.5 %
7	Flexural strength	ASTM D 790	96.5 N/mm^2
8	Shear Strength with punch shear test	ASTM D 732	18.74 N/mm^2
B	**Properties of Aluminium Skin**		
1	Skin thickness	Measured	0.50 mm
2	Tensile strength (Rm)	ASTM E8	135.5 N/mm^2
3	0.2% proof stress	ASTM E8	125.0 N/mm^2
4	Elongation	ASTM E8	2.5 %
5	Modulus of elasticity	ASTM E8	70,000 N/mm^2

Test results pertain to sample submitted to us.

A.S. Khanna

IIT BOMBAY (TEST CERTIFICATE)



IIT Bombay
Prof. A. S. Khanna
(Fellow NACE, FellowASM, Fellow AvH)

Telefax : (+91-22) 25767891 (O)
Fax : (+91-22) 25723480, 25726975
E-mail : khanna@iitb.ac.in
Chairman - SSPC India
President : Humboldt Academy of Bombay

M/s. Maa Alu Panel (India) Pvt Ltd.
Sagar Ceramic, Survey No.864/P,
Nr. sarvoday hotel, N.H. -8, Kankrol
Opp Sabakarijin,Himatnagar, Gujarat,
India. 383001

October 12, 2015

Reference No: -nil your Email dated September 01, 2015

Job No. IN/ASK-31/15-16

Dear Sir,

Subject: Testing of **Maa Alu panel (India) Pvt Ltd** Aluminium Composite Panel

Please find hereby the test results of ACP samples submitted to us.

Sr .No	Test Parameter	ASTM	Unit	Results
1	ACP Thickness	Measured	mm	4.0
2	Aluminium Coil Thickness	Measured	mm	0.25
3	Weight Of ACP	Measured	Kg/m^2	5.2
4	Density Of ACP	Measured	g/cm^3	1.3
5	PVDF	Measured	----	Passes
6	PVDF Coating Thickness	ASTM D 7091	µm	26
7	Peel Strength	---	n/mm	6.8
8	ACP Tensile Strength	ASTM D 638	MPa	25.0
	Yield Strength	ASTM D 638	MPa	23.0
	% Elongation	ASTM D 638	%	3.5
9	Flexure Strength	ASTM D 790	MPa	
10	Punch Shear Strength	ASTM D 732	MPa	27.0
11	Pencil Hardness	ASTM D 3363	----	3H
12	Boil Water test 1 hr.,120 ^0C	Measured	Hr.	Passes
13	Adhesion	ASTM D 3359	---	5B
14	ACP Tensile Strength	ASTM D 638	MPa	135
	Yield Strength	ASTM D 638	MPa	122.5
	% Elongation	ASTM D 638	%	4.0

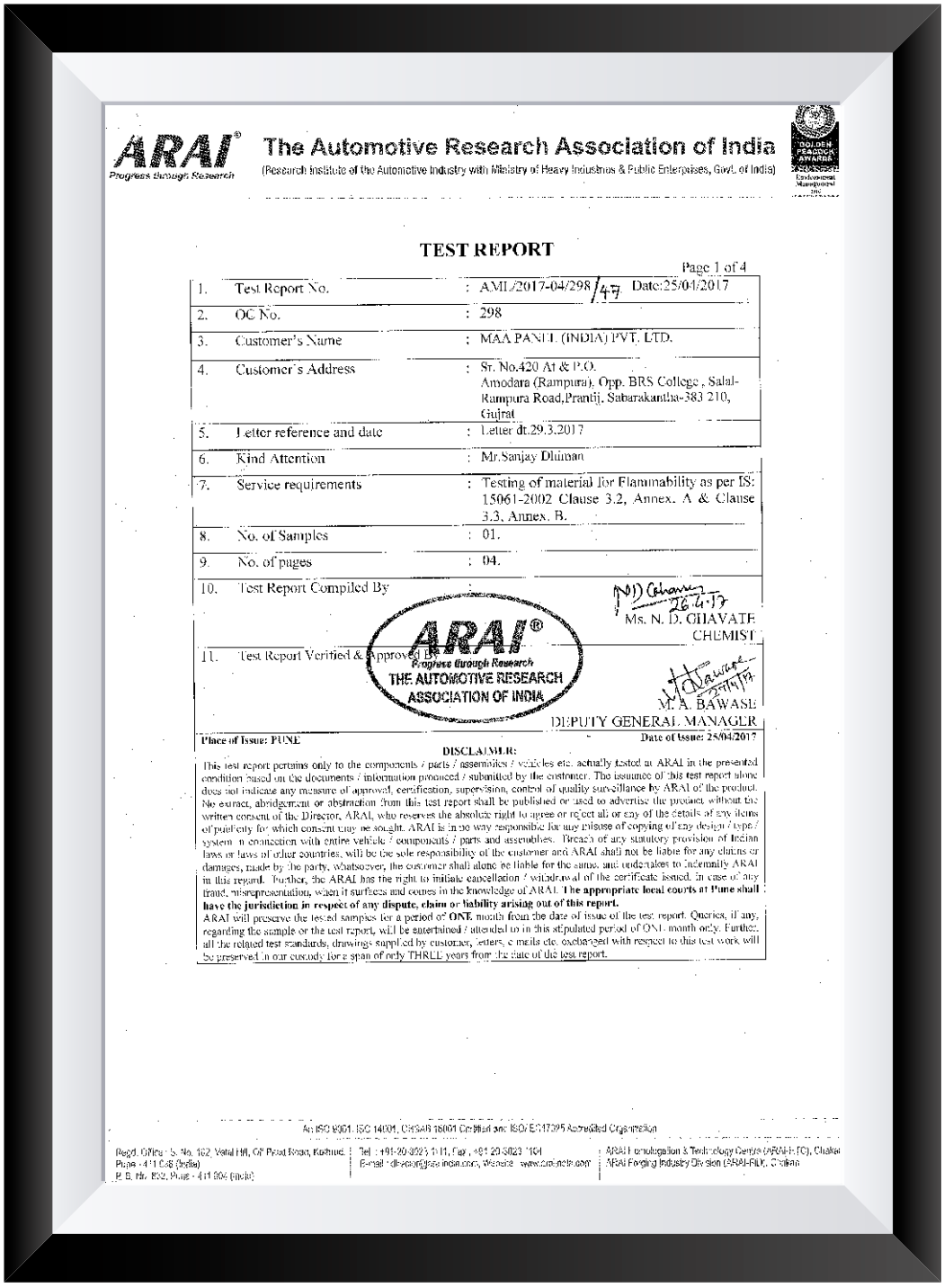
Test results pertain to sample submitted to us.

A.S. Khanna

Prof. A. S. KHANNA
Corrosion Science & Engineering
Dept. of Met. Engg. & Material Science
Powai, Mumbai - 400 076

Corrosion Science & Engineering
Dept. of Met. Engg. & Material Science, Indian Institute of Technology, Bombay, Powai, Mumbai - 400076, India

IIT BOMBAY (TEST CERTIFICATE)



ARAI
Progress through Research

The Automotive Research Association of India
(Research Institute of the Automotive Industry with Ministry of Heavy Industries & Public Enterprises, Govt. of India)

GOLDEN PEACOCK AWARDS
Environment Management

TEST REPORT

Page 1 of 4

1.	Test Report No.	:	AML/2017-04/298/47 Date:25/04/2017
2.	OC No.	:	298
3.	Customer's Name	:	MAA PANEL (INDIA) PVT. LTD.
4.	Customer's Address	:	Sr. No.420 At & P.O. Amodara (Rampura), Opp. BRS College , Salal-Rampura Road,Prantij, Sabarakantha-383 210, Gujrat
5.	Letter reference and date	:	Letter dt.29.3.2017
6.	Kind Attention	:	Mr.Sanjay Dhiman
7.	Service requirements	:	Testing of material for Flammability as per IS: 15061-2002 Clause 3.2, Annex. A & Clause 3.3, Annex. B.
8.	No. of Samples	:	01.
9.	No. of pages	:	04.
10.	Test Report Compiled By	:	Ms. N. D. CHAVATE CHEMIST
11.	Test Report Verified & Approved By	:	M. A. BAWASE DEPUTY GENERAL MANAGER

ARAI® Progress through Research THE AUTOMOTIVE RESEARCH ASSOCIATION OF INDIA

Place of Issue: PUNE **Date of Issue: 25/04/2017**

DISCLAIMER:

This test report pertains only to the components / parts / assemblies / vehicles etc. actually tested at ARAI in the presented condition based on the documents / information produced / submitted by the customer. The issuance of this test report alone does not indicate any measure of approval, certification, supervision, control of quality surveillance by ARAI of the product. No extract, abridgement or abstraction from this test report shall be published or used to advertise the product without the written consent of the Director, ARAI, who reserves the absolute right to agree or reject all or any of the details of any items of publicity for which consent may be sought. ARAI is in no way responsible for any misuse of copying of any design / type / system in connection with entire vehicle / components / parts and assemblies. Breach of any statutory provision of Indian laws or laws of other countries, will be the sole responsibility of the customer and ARAI shall not be liable for any claims or damages, made by the party, whatsoever, the customer shall alone be liable for the same, and undertakes to indemnify ARAI in this regard. Further, the ARAI has the right to initiate cancellation / withdrawal of the certificate issued, in case of any fraud, misrepresentation, when it surfaces and comes in the knowledge of ARAI. **The appropriate local courts at Pune shall have the jurisdiction in respect of any dispute, claim or liability arising out of this report.**

ARAI will preserve the tested samples for a period of **ONE** month from the date of issue of the test report. Queries, if any, regarding the sample or the test report, will be entertained / attended to in this stipulated period of ONE month only. Further, all the related test standards, drawings supplied by customer, letters, e mails etc. exchanged with respect to this test work will be preserved in our custody for a span of only THREE years from the date of the test report.

An ISO 9001, ISO 14001, OHSAS 18001 Certified and ISO/IEC 17025 Accredited Organisation

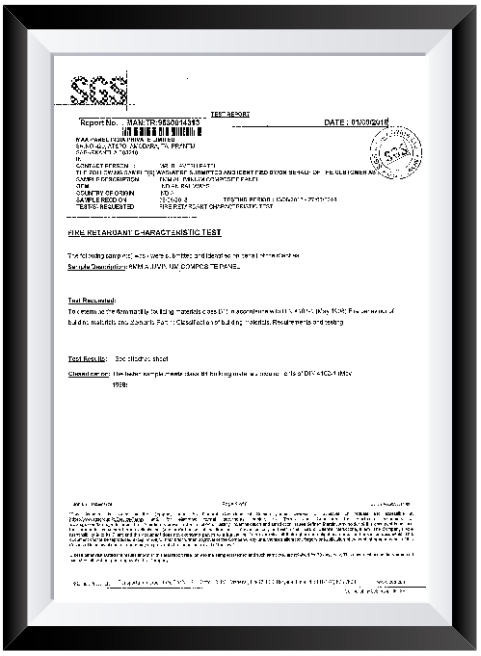
Regd. Office : S. No. 102, Vetal Hill, Off Paud Road, Kothrud, Pune - 411 038 (India)
P. B. No. 832, Pune - 411 004 (India)

Tel : +91-20-6723 1111, Fax : +91 20 6723 1104
E-mail : dirgen@vsnl.com, Website : www.aranet.com

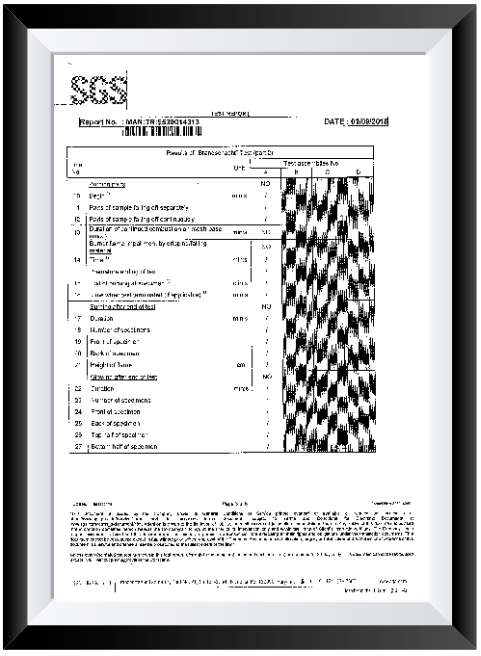
ARAI Homologation & Technology Centre (ARAI-HTC), Chakan
ARAI Forging Industry Division (ARAI-FID), Chakan

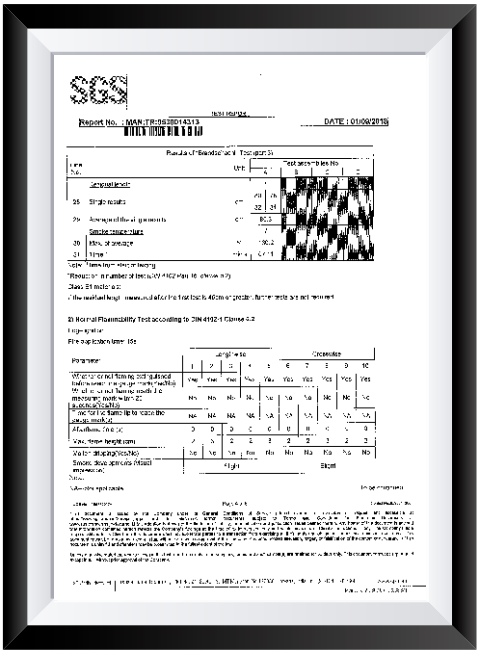
ARAI REPORT

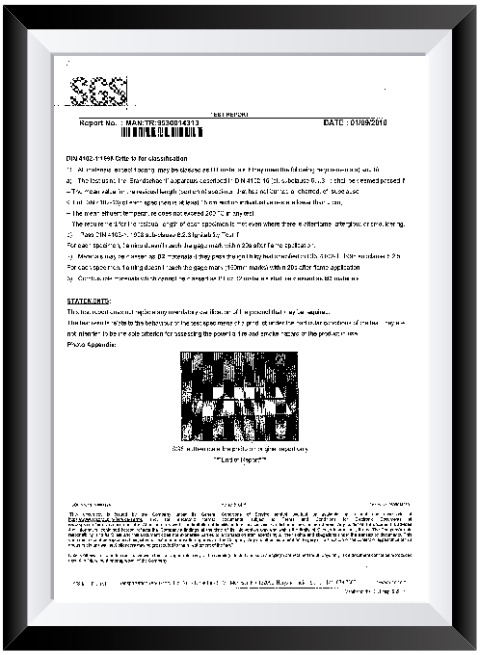
SGS CERTY









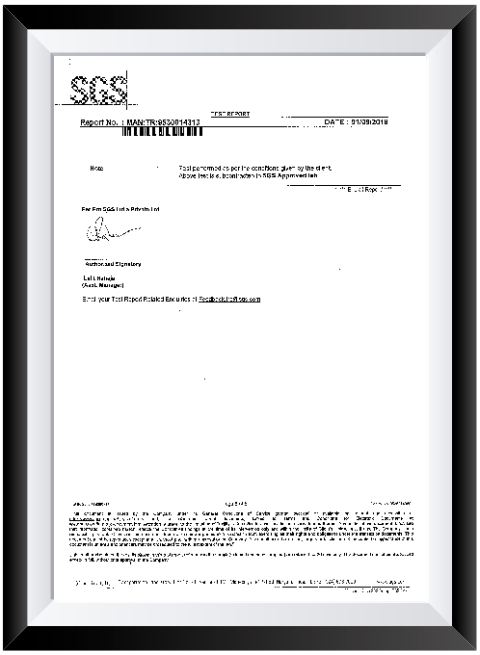

SGS

Report No. : MAN/TR/9530814313 DATE : 01/08/2018

DIN 4102-1/1998 Critic to fire classification

STATICK DATA:

Photo Appendix:


SGS

Report No. : MAN/TR/9530814313 DATE : 01/08/2018

Note

Test performed as per the conditions given by the client.
Above results are applicable to NON Approved Item

For Fire SGS India Private Ltd

Authorised Signatory

Lalit Nirbale
(Asst. Manager)

Email your Test Report Related Queries at Feedback.in@sgs.com





PRODUCT TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATION LDPE CORE

TECHNICAL SPECIFICATION FR CORE

TECHNICAL SPECIFICATION LDPE CORE



PRODUCT DETAIL

MAPL exterior grade panel composed of a low density polyethylene core sandwiched between two sheet of aluminium coil as

PRODUCT COMPOSITION

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Alloy	-	ASTM B209M	AA 1100 / AA3380	AA 1100 / AA3380
2	Skin Thickness	mm	-	0.25	0.5
3	Core material	-	-	Virgin/ First Grade Recycled LDPE	Virgin/ First Grade Recycled LDPE

PRODUCT DIMENSION AND TOLERANCE

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Panel thickness	mm	-	3 MM(Available on Request 4MM, & 6MM)	4 MM (Available on Request 3MM,5MM &6MM)
2	Panel size	mm	-	Width = 1220 mm; 1550mm (Customized) Length = Up to 6100 mm	Width = 1220 mm; 1550mm (Customized) Length = Up to 6100 mm
3	Tolerance in Width	mm	-	±2.0 mm	±2.0 mm
4	Tolerance in Length	mm	-	±4.0 mm	±4.0 mm
5	Tolerance in Thickness (Panel)	mm	-	±0.2 mm	±0.2 mm
6	Tolerance in Thickness (Coil)	mm	-	± 0.03 mm	± 0.03 mm
7	Squareness	mm	-	Maximum 5.0 mm	Maximum 5.0 mm
8	Bow	mm/m	-	Maximum 0.5% of width and/or length	Maximum 0.5% of width and/or length
9	Paint Thickness	-	-	Exterior face Double coil coated with PVDF (KYNAR-500 min 70%) Interior Face coil coted with Polyester	Exterior face Double coil coated with PVDF (KYNAR - 500 min 70%) Interior Face coil coted with Polyester
10	Surface defects	-	-	The surface shall not have any irregularities such as roughness, buckling and other imperfections in accordance with our visual inspection rules.	The surface shall not have any irregularities such as roughness, buckling and other imperfections in accordance with our visual inspection rules
11	Panel weight	kg/m^2	-	4.0	5.5



MECHANICAL PROPERTIES OF ALUMINIUM COMPOSITE MATERIAL (ACM)

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Peel Strength	Mpa or N/mm^2	ASTM E8	6.80	7.50
2	Tensile Strength(Min.)	Mpa or N/mm^2	ASTM E8	35.00	40.00
3	Yeild Strength	MPa or N/mm^2	ASTM E8	23.00	36.50
4	Elongation (Min.)	MPa or N/mm^2	ASTM E8	8%	8.50%
5	Flexural Strength	MPa or N/mm^2	ASTM C393	73.00	96.50
6	Maximum Load	MPa or N/mm^2	ASTM D732	1380	1650
7	Shear Strength(Min.)	MPa or N/mm^2	ASTM D732	27.00	18.75

MECHANICAL PROPERTIES OF ALUMINIUM ALLOY

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Tensile Strength (Min.)	Mpa or N/mm^2	ASTM E8	135	140
2	Modulus of ElasticityMin.	Mpa or N/mm^2	ASTM E8	70000	70000
3	Elongation, E	MPa or N/mm^2	ASTM E8	4%	2.50%
4	Min. 0.2% proof stress	MPa or N/mm^2	ASTM E8	133	125

PAINT FINISH

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Coating Type	-	AAMA 2605	PVDF(KYNAR-500 min 70%)	PVDF(KYNAR-500 min 70%)
2	No. of Coats	-	AAMA 2605	Solid Colors-25 microns Metallic Colors-28 microns Double Coats- 30 -35 microns	Solid Colors-25 microns Metallic Colors-28 microns Double Coats- 30 -35 microns
3	Coating warranty	-	AAMA 2605	10 Yrs	10 Yrs
4	Thermal resistance (R- Value)	m^2K/W	DIN 52612	0.013	0.013
5	Heat Transmission Coefficient (U-Value)	W/m^2K	DIN 4108	79	79
6	Water absorption	% ($23\pm1_0C$ for 24 Hours)	ASTM D570	Nil	Nil
7	Surface Resistivity	ohm/Squ are (Static Charge)	ASTM D257	$3X10^{11}$	$3X10^{11}$
8	Color and gloss	%	AAMA 2605	15-60	15-60

GENERAL PROPERTIES

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Formability (T-bend)	T	NCCA II-19 ASTM D1737-62	2T, no cracking	2T, no cracking
2	Reverse impact- crosshatch	-	NCCA II-5	No pick off	No pick off
3	Hardness-pencil	min	ASTM D3363-92a	2H	2H
4	Adhesion Dry Wet Boiling water	-	ASTM D3359, method 8 37.8°C, 24 hrs. 100°C, 20 min.	No pick off No pick off No pick off	No pick off No pick off No pick off
5	Abrasive resistance	litres/mil	ASTM D968-93 (Falling sand)	40	40
6	Chemical resistance: Muriatic acid, 10%HCl, 72hrs Sulphuric acid, 20%H2SO4, 18hrs Sodium hydroxide, 20%NaOH, 1hr Mortar, pat test, 24hrs Detergent, 3%solution, 38°C, 72hrs	-	ASTM D1308-87 ASTM D1308-87 ASTM D1308-87 AAMA2605 ASTM D2248-93	No change No change No change No change No change	No change No change No change No change No change

WEATHERABILITY

S.No.	Parameters	Units	Standards	MAPL GOLD (3MM.25)	MAPL GOLD (4MM.50)
1	Weather-o-meter test Colour retention: Gloss retention: Chalk resistance:	-	ASTM D2244-93 ASTM D523-89 ASTM D4214-89	Max. 5 units after 4000 hrs 70% after 4000 hrs Max. 8 units after 4000 hrs	Max. 5 units after 4000 hrs 70% after 4000 hrs Max. 8 units after 4000 hrs
2	Salt spray resistance	Hrs	ASTM B117-90	Blister-10, scribe-8, after 4000 hrs, 35°C salt fog	Blister-10, scribe-8, after 4000 hrs, 35°C salt fog
3	Humidity-thermal	Hrs	ASTM D2246-87	No blister, no cracking After 15 cycles of 38°C 100%RH for 24hrs and -23°C for 20hrs	No blister, no cracking After 15 cycles of 38°C 100%RH for 24hrs and -23°C for 20hrs
4	Humidity resistance	Hrs	ASTM D2247-94	No change After 4000 hrs, 100%RH, 35°C	No change After 4000 hrs, 100%RH, 35°C

PANEL INTEGRITY

Item	Unit	3mm	4mm	Remark
Vertical Pull	Kg/cm2	120	120	C-297
Drum Peel	mm N/mm	150	150	D-1781
Flatwise Shear	Kg/cm2	88.5	86.1	C-273

DENT (IMPACT) TEST BY DU-PONT METHOD

Steel Ball Weight (kg)	Height (mm)	Dent Depth(mm)	
		3 mm	4 mm
0.30	300	0.74	0.56
0.30	500	1.17	0.81
0.50	300	1.18	0.88
0.50	500	1.64	1.36
1.00	300	1.97	1.71
1.00	500	2.60	2.29

PANEL FIRE RESISTANCE CHARACTERISTIC

MAPL is manufactured using two strong sheets of noncombustible aluminium. It can resist against fire also after lamination process. Following is the resistant test result of MAPL after fire resistant test.

Ignitibility	Index 0	Class "A"
Heat Evolved	Index 0	Class "A"
Flame Spread	Index 0	Class "A"

THERMAL INSULATION PROPERTIES (PANEL)

Panel Thickness	Thermal Resistance	Thermal Conductivity
4 mm	5.26 (mb°C/kcal)	0.1 9 (kcal/mh°c)

THERMAL EXPANSION OF PANEL

Panel Thickness	Co-efficient Thermal expansion	Standard
4 mm	26x10-4	D-696.

COMPARISON CHART BETWEEN MAPL ACP PANEL, SOLID ALUMINIUM AND STEEL

Item	MAPL Panels	Solid Aluminium	Steel
Weight	4 mm : 5.48Kg/m2	3mm:8.0 kg/m2	1.5mm:l 1.47 kg/m2
Flatness	Very Flat	Uneven	Uneven
Heat Insulation	Best	Poor	Poor
Sound Insulation	25db	15db	5db
Echo Response	Low	Medium	High
Weather Proof	Good	Good	Good
Fire Proof	Good	Good	Good
Paint Consistency	Best	Inconsistent	Inconsistent
Paint Microns	Even	Uneven	Uneven
Fabrication	Easy	Difficult	Very Tough
Deliver	Quick	Slow	Slow
Total Cost	Economical	Medium Cost	Expensive
Maintenance	Easy	Easy	Easy
Installation	Quick	Slow	Very Slow

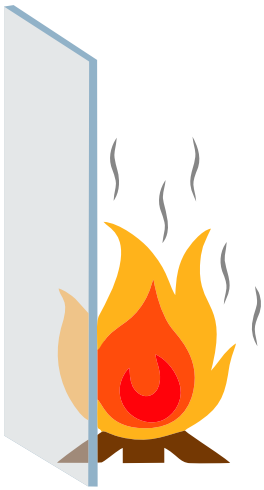


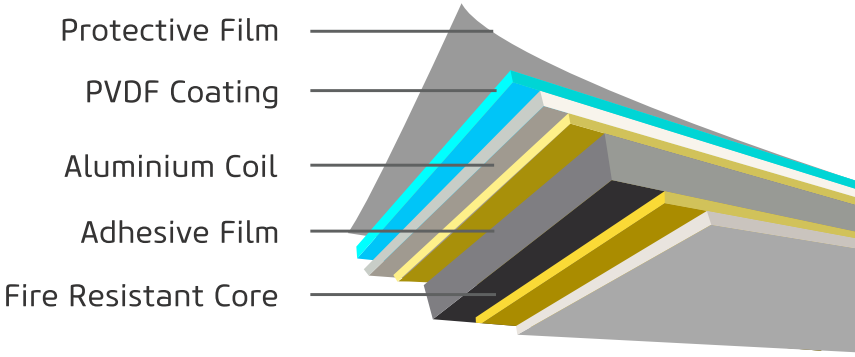
TECHNICAL SPECIFICATION FR CORE

FR GRADE ALUMINIUM PANEL

MAPL FR grade ACP panel composed of FR minerals as a core material sadwitched between two aluminium coil as per below diagram

STOPS
Flames
Smoke
Toxic Gas





STANDARD COMPOSITION

Product Composition	Total Panel Thickness	Component Thickness(MM)		
		Top Alu. Coil	Core FR	Bottom Alum. Coil
MAPL	4	PVDF Coated 0.50 MM	3.MM	Polyster Coated 0.50MM

PRODUCT DIMENSION

Dimension	Units	Standards	Size Available
Panel Thickness	mm	4MM	3MM,5MM & 6MM
Width	mm	1220	1550
Length	mm	-	up to 6000

TOLERENCE

Dimension	Units	Standards	Size (Rounded)
Tolerance in Width	mm	-	±2.0 mm
Tolerance in Length	mm	-	±4.0 mm
Tolerance in Thickness (Panel)	mm	-	±0.2 mm
Tolerance in Thickness (Coil)	mm	-	± 0.03 mm
Squareness	mm	-	Maximum 5.0 mm
Bow	mm/m	-	Maximum 0.5% of width and/or length

PHYSICAL PROPERTIES

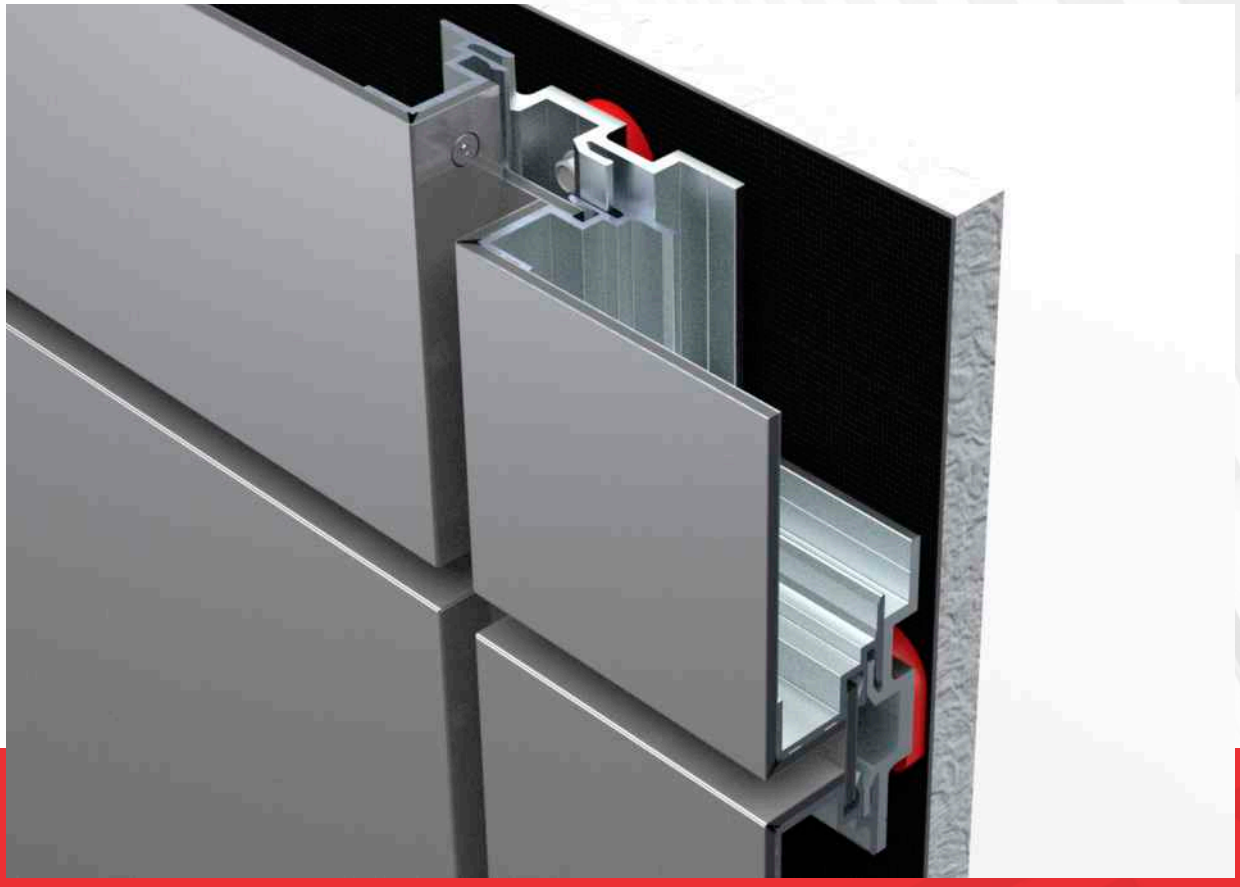
Dimension	Units	Thickness	Size (Rounded)
Panel Density	g/cm3	4 mm	1.89
Panel Weight	kg/m2	4 mm	7.80
Thermal expansion	×10-6 /°C	4 mm	24

PHYSICAL PROPERTIES

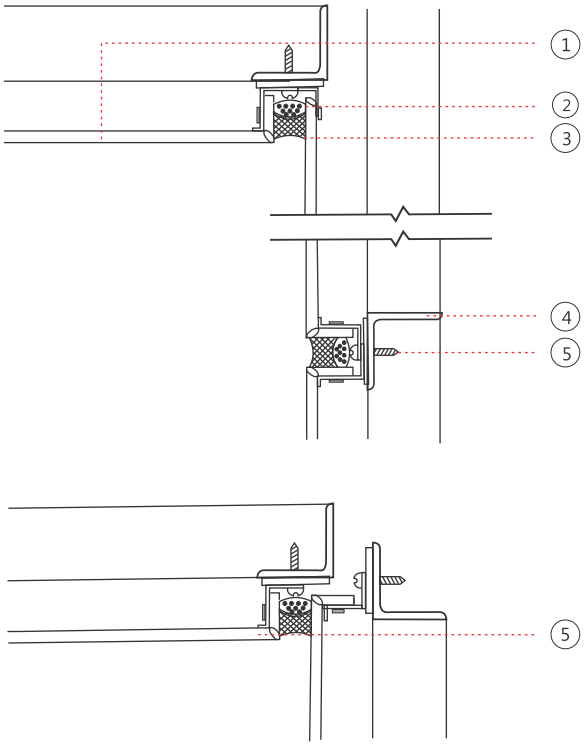
Parameters	Units	Standards	MAPL FR
Min. Tensile Strength	Mpa or N/mm^2	ASTM E8	40
Min. 0.2% Proof Stress	MPa or N/mm^2	ASTM E8	35
Elongation (Min.)	%	ASTM E8	5
Flexural Strength	MPa or N/mm^2	ASTM C393	110
Min. Flexural Modulus	MPa or N/mm^2	ASTM D790	11000
Min. Shear Strength	MPa or N/mm^2	ASTM D732	18

FIRE TESTS FOR GENERAL AND EXTERNAL CLADDING MATERIAL

Parameters	Units	Standards	MAPL FR
EU	Class	EN 13823, EN ISO 11925-2, EN	Class B
Germany	Class	13501-1DIN4102 Part 1	Class B1



INSTALLATION METHODS

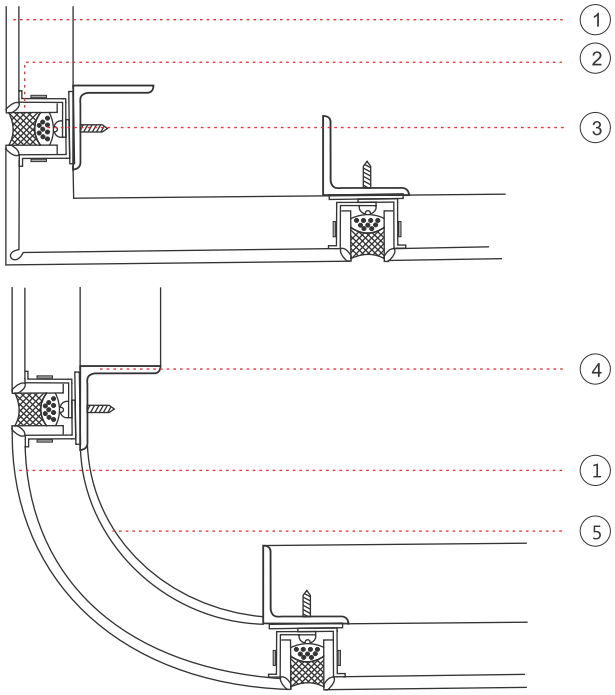


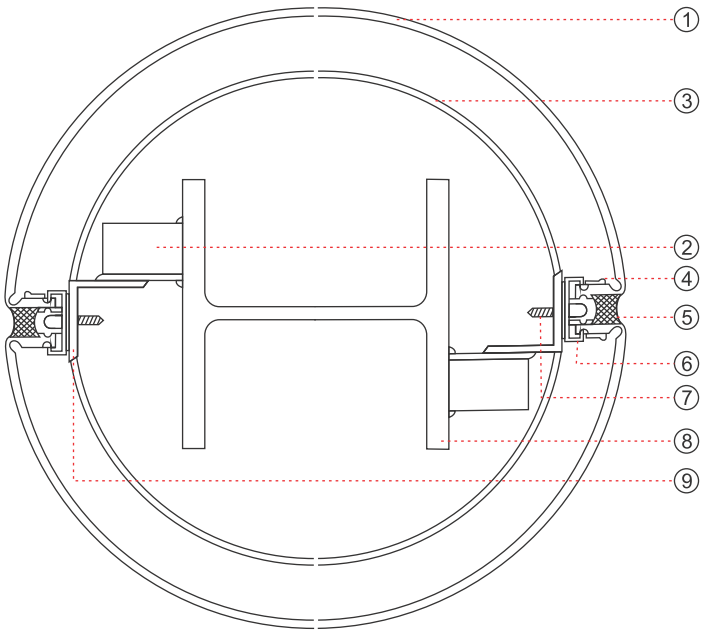
INSIDE ANGLE

1. Mapl ACP Panel
2. Sealing Material
3. Backup Material
4. Steel Angle
5. Backup Material

OUTSIDE ANGLE

1. Mapl ACP Panel
2. Sealing Material
3. Backup Material
4. Steel Angle
5. Steel Flat Bar



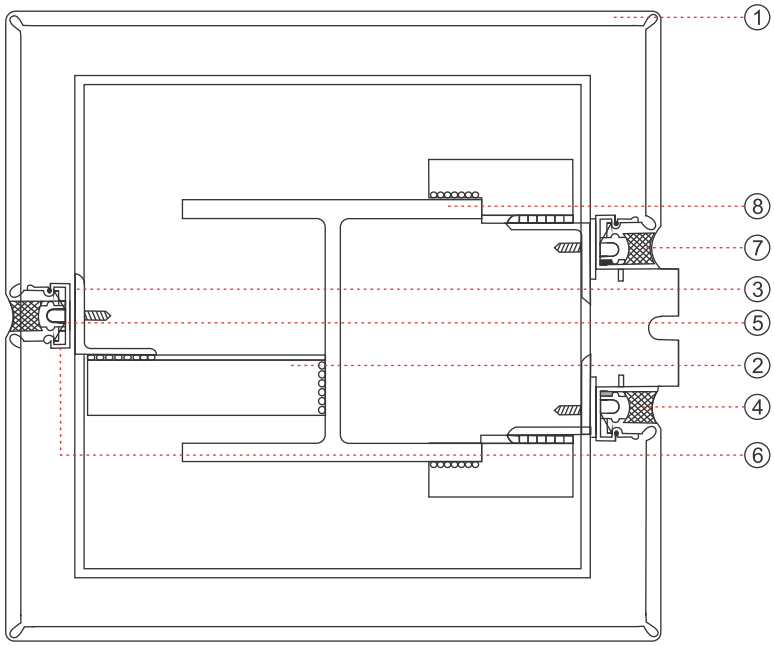


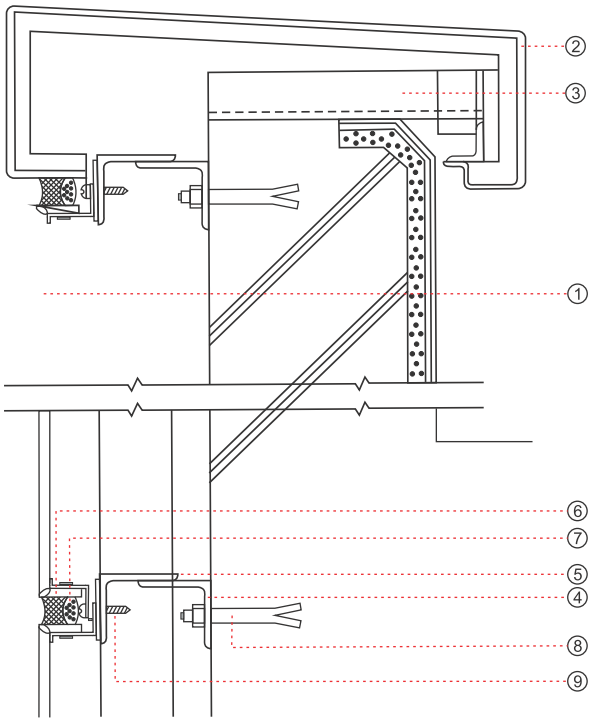
ROUND COLUMN COVER

1. Mapl ACP Panel
2. Angle Piece - Bracket
3. Steel Flat Bar
4. Sealing Material
5. Vinyl Backer Rod
6. Attachment System
7. Tapping Screw
8. Structural Stud
9. Steel Angle

SQUARE COLUMN COVER

1. Mapl ACP Panel
2. Angle Piece - Bracket
3. Steel Angle
4. Sealing Material
5. Vinyl Backer Rod
6. Attachment System
7. Tapping Screw
8. Structural Stud



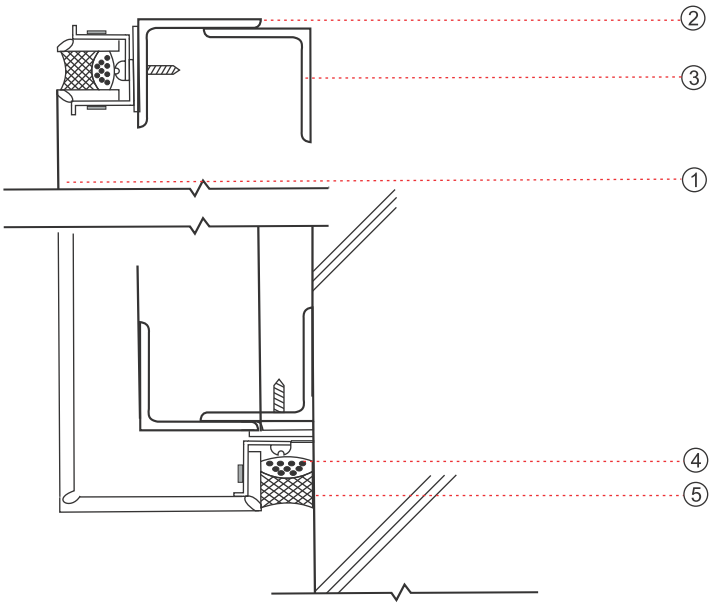


AROUND COPING

1. Mapl ACP Panel
2. Coping
3. Angle Piece - Bracket
4. Angle Piece
5. Steel Angle
6. Sealing Material
7. Backup Material
8. Tapping Screw
9. Hole-in Anchor Or Built-in Bolt

AROUND FOUNDATION

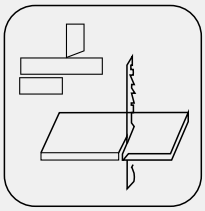
1. Mapl ACP Panel
2. Steel Angle
3. Angle Pieces - Bracket
4. Sealing Material
5. Backup Material



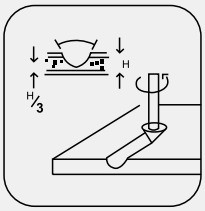
PROCESSING MAPL ALUMINIUM COMPOSITE PANEL

Various fabrication techniques can be employed to fabricate MAPL Aluminium Composite Panels. It is recommended to carry out fabrication in a workshop to minimize defects, exercise overall quality control and to attain higher levels of accuracy.

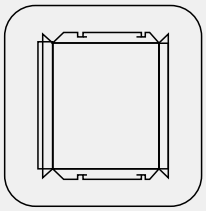
The material can be fabricated by employing the right tools. The blade configuration and the cutting conditions should carefully selected to ensure that frictional forces are minimized and the heat produced during the process is also kept to the minimum.



Cutting
Cutting, electronic saw, band saw, disc scissor.



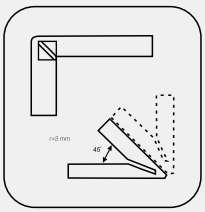
Slotting
After machining by electronic milling machine or portable milling machine, panel bendable to all kinds of polyhedron by hand



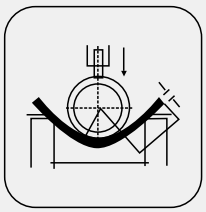
Chamfering
Fold into a carton after machining of punch machine and chamfer



Welding
By plastic rod and thermo-welding machine.



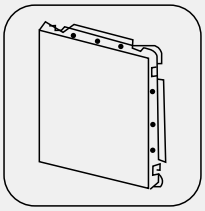
Angle
All angles available after slotting



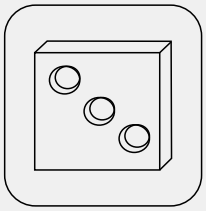
Bending
Curve surface by 3-point style, 3-roller panel bender



Printing
All printing available by weebby panel.



Riveting
By rivet, bolt, self-fasten screw etc.



Bolting

INSTALLATION PRE-REQUISITES

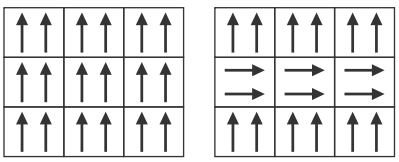
- Panels ought to be erected in accordance, with an approved set of shop drawings. In addition structural strength of anchorage and assorted hardware used for fastening should be as per standard and preferably in aluminium as per engineering recommendations.
- Wherever aluminium comes in contact with dissimilar metals, it should be properly insulated else use of caulking tape is advised to avoid electrolytic corrosion.
- The bend portions between panel joints shall not be caulked before protective film is removed. Ensure weep holes and drainage channels are unobstructed and free of debris, dirt and sealant.
- It is recommended to install the panel vertically.

CLEANING METHODS

- Routine cleaning of the ACP surface is recommended. It may be washed with water and mild detergent, followed by clean water rinse. The frequency with which cleaning is to be carried out and the choice of a suitable cleaning agent depends largely on the location of the building and levels of contamination.
- Do not clean when surface temperatures are above 40 degree centigrade to avoid formation of stain.
- The cleaning operation must be carried out from top to bottom followed by proper rinsing with clean water to ensure the removal of the cleansing agent residues. A final wipe down by means of a sponge, leather or wiper is necessary to avoid water stains.

SUGGESTIONS

1. To ensure colour consistency, the total requirement for a project is advised to be placed in one order. It is also recommended to install the panels in the same direction as marked arrow on protective peel-of-film to avoid possible reflection difference.



2. Custom colours are also available upon request for solid colours, metalic colours & special finishes such as mirror, brush finishes act. Subject to the respective minimum quantity.

3. Colour may vary from batch to batch. (± 5)

PRODUCT RANGE



COMBINE CATALOGUE



HPL CATALOGUE



METALAM ACP



CLASSIC COLLECTION



PARTITION CATALOGUE

EXPO HIGHLIGHTS

ACE TECH EXPO-2019









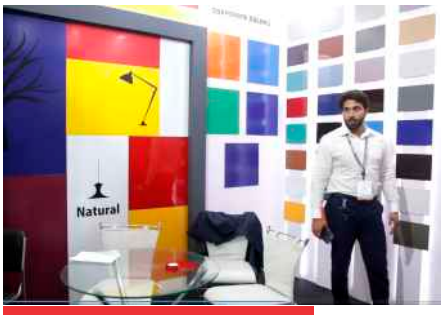




MEDIA EXPO - 2019













PROJECTS



ROYALOAK PROJECT HASSAN
(KARNATAKA)



GUNTUR AP



JSW EXTERIOR AND INTERIOR



NANDYAL



ROYALOAK PROJECT HOSUR TAMILNADU



VIJAYAWADA AP



NANDYAL FOREST DEPARTMENT



NANDYAL



GANGAVATI FINALIZE



MILK FEDERATION (KMF)
CHAMARAJANAGAR, KARNATAKA



MYSORE (KARNATAKA MILK FEDERATION)



KOPPAL (GOVT. PROJECT)



ANANTAPUR (ANDHRA PRADESH)



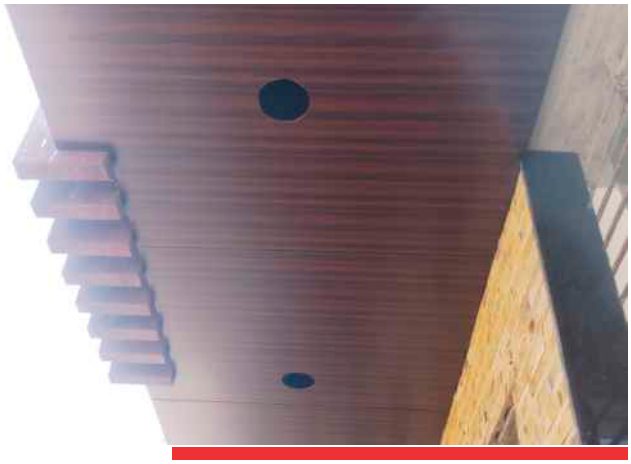
ANANTAPUR (ANDHRA PRADESH)



MANIPAL INTERNATIONAL SCHOOL (BANGALORE)



HUBLI (KARNATAKA)



HUBLI (KARNATAKA)



PEENYA (BANGALORE)



BANGALORE



NATIONAL PUBLIC SCHOOL BANGALORE

ADVANTAGES

MAPL Alu Panel's properties make it a perfect replacement for conventional cladding material such as marble, granite, concrete etc.



MAPL ACP Panel Hi-tech Look

It increases the perceived value of commercial or residential projects making it easily saleable.



Flatness

Continuous laminating process provides excellent flatness of the panels eliminating distortion or deflection.
Flatness of up to 2mm per 1200mm length i.e. 0. 1 6% of its length is now possible through this technology.



Easy Availability

Being locally manufactured, MAPL ACP Panel is readily available. It can be ordered and delivered at short notice, according to the progress of your project. Thereby, reducing financial commitments and blockage of builder's funds.



Size Advantage

MAPL ACP Panel can be ordered in any tailor made size, thus eliminating wastage.



Reduced Dead Weight

Being a very light and strong cladding material, MAPL ACP Panel reduces the dead weight of the building.
It weighs less than 1/10th of conventional cladding material such as marble, granite etc. MAPL ACP Panel makes the building safer from earthquake.



Water and Corrosion Resistance

100% maintenance free, Kynar 500 based PVDF coating assures superior resistance against corrosion.
It can withstand extreme environmental conditions.



Colour Uniformity
The coil coating process provides the best quality of colour uniformity unlike spray gun type and there are no visible grain lines



Sound Resistance
MAPL ACP Panel, being a multi layer panel, has an excellent sound proof effect.



Thermal Resistance
Polyethylene is one of the best insulating material. MAPL ACP Panel's Polyethylene core does not allow heat to penetrate the building, thus results of major electricity cost saving in air-conditioning.



100% Maintenance Free
PVDF coating retains its finish usually over 15 years. No maintenance is required. Regular cleaning with mild detergent will keep the finishing as good as new.



Impact Resistance
MAPL ACP Panel is resistant to reasonable impact loads due to the unique composite construction of strong aluminum skins Alu Panel to a visco elastic core.



Versatility
MAPL ACP Panel can be shaped to any desired design, concave, convex and any bent structures can be created, by using standard wood or aluminium working machines.



Quick Installation
MAPL ACP Panel renders itself to easy installation. Project execution time is drastically reduced.

APPLICATION

- MAPL ACP Panel is the most versatile building material for exterior and interior use.
- Exteriors (curtain walling and wall paneling) of high rise apartments, industrial and commercial buildings, hospitals, hotels, gas stations, shopping malls, educational institutes, convention centers etc.
- Roof edging and spandrel panels, wall and ceiling panels, beam wraps etc.
- Facelift/retrofit offer buildings columns and beam covers.
- Interiors (walls and ceilings) of shops, apartments, offices, workshops, showrooms, elevators, etc.
- Store canopies, shop fronts, dealer sign-boards, display units, vehicle bodies, sign-posts etc.
- Innovative furniture, partitions etc.

CHARACTERISTICS of MAPL Product



12 years warranty on PVDF



INDIA'S first company use 3000 alloy



MAPL 101, MAPL 110, MAPL 201, MAPL 202, MAPL 207 , MAPL 214 This product is also available in 0.50MM







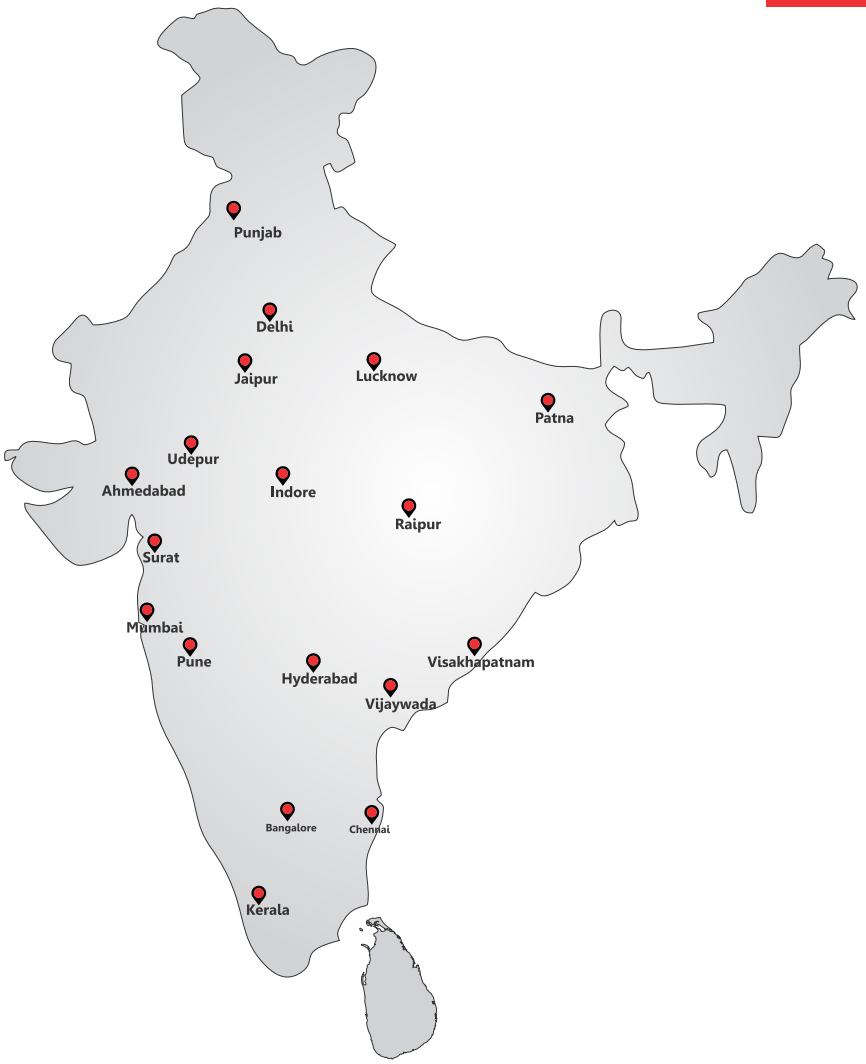




OUR CLIENTELE

oppo SMARTPHONE	vivo	GiONEE	SAMSUNG
इंडियनऑयल IndianOil	Hero	BOSCH Invented for life	State Bank of India THE BANKER TO EVERY INDIAN
EICHER	JOS ALUKKAS	एनटीपीसी NTPC	INDIAN RAILWAYS
goibibo .com	MARUTI True Value	OYO ROOMS	JCB

STOCK POINTS



CONTACTS

Depot Address

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Maa Panel (India) Pvt. Ltd - Kochi
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Email Id:cochin@maplalupanel.com

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Maa Panel (India) Pvt. Ltd. - Ahmedabad
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