



भारतीय प्रौद्योगिकी संस्थान दिल्ली
INDIAN INSTITUTE OF TECHNOLOGY DELHI

Department of Materials Science & Engineering

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Dr. Suresh Neelakantan

Assistant Professor

September 25, 2019

To,

4MANN Industries Pvt., Ltd.,

Gala & Shethia Enterprise Building, Plot No. C-5,

ST No.11, MIDC, Andheri [E], Mumbai – 400 093

Our Ref. No.: IITD/IRD/CWG/MT/sureshn-1/19-20/134709

Results of Product Code ER – 101 – 3R and its Branch

S. No	Description	Test Methods ASTM	Unit	Results
A. Properties of ACP (4MANN® Aluminium Composites Panel)				
1	ACP thickness	Visual Check	mm	3.12 ± 0.14
2	Weight of ACP	Visual Check	Kg/m ²	3.8 ± 0.055
3	Density	-----	gm/cm ³	1.33 ± 0.11
4	Polyethylene Core Density	D 1505	gm/cm ³	0.89 ± 0.08
5	Bond Integrity (Peeling strength)	D 908	N/mm	6 ± 1
6	Tensile strength of ACP	E 8	MPa	34 ± 3
7	Yield strength of ACP	E 8	MPa	31 ± 2
8	% Elongation of ACP	E 8	%	5.6 ± 0.6
9	Flexural Strength	D 790	MPa	98 ± 11
B. Properties of Skin				
10	Skin thickness	-----	mm	0.26 ± .021
11	Tensile strength	E 8	MPa	153 ± 4
12	Yield strength	E 8	MPa	142 ± 6
13	% Elongation	E 8	%	5 ± 2
C. Paints Finish and test properties				
14	Coating Thickness (DFT)	D 7091	µm	29 ± 3
15	Gloss at 60° angle	D 523	%	32 ± 2
16	Reverse Impact	D 2794	27 Joules	Passes
17	Cross Hatch	D 3359	-----	5B
18	Pencil Hardness	D 3363	-----	2HB
19	Solvent resistance	D 5402	24 Hours	Pass (No discoloration)
20	5% HCL	D 1308	24 Hours	Pass (No discoloration)

Test results pertain to samples submitted to us

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