



Certificate of Registration

This certificate has been awarded to

PANEL WORLD CO., LTD.

83/1 Moo 11, Setakit 1 Rd., Klongmadue, Krathumban, Samutsakorn 74110
Thailand

in recognition of the organization's Environmental Management System which complies with

ISO 14001:2004

The scope of activities covered by this certificate is defined below

Manufacture of Cement-Bonded Particle board: High Density

Certificate Number:

50702/A/0001/UK/En

Date of Issue: (Original)

27 July 2012

Date of Issue:

27 July 2012

Issue No:

1

Expiry Date:

26 July 2015

Issued by:

On behalf of the Schemes Manager



043





Physical properties

Density	kg/m ³	1,300 ± 10%
Modulus of Elasticity (MOE)	N/mm ²	≥ 4,500
Modulus of Rupture (MOR)	N/mm ²	≥ 9
Tensile Strength (perpendicular to the board plain)	N/mm ²	≥ 0.50
Equilibrium moisture	%	9-15
Thickness swelling after 24 hours immersion in water	%	≤ 2
Water absorption after 24 hours immersion in water	%	10
Coefficient of Heat Conductivity (k)	W/m°C	0.1
Sound proof level	dB	30-33
Alkalinity	pH	12



Weight

1,200 x 2,400 mm.

Thickness	6	8	10	12	14	16	18	20	22	24
kg/board	23.85	30.00	38.00	45.00	53.00	60.00	68.00	75.00	83.00	90.00
kg/m ²	8.28	10.42	13.02	15.63	18.40	20.83	23.60	26.04	28.82	31.25

1,200 x 2,850 mm.

Thickness	6	8	10	12	14	16	18	20	22	24
kg/board	28.32	36.64	46.41	54.96	64.74	73.29	83.06	91.61	101.40	109.90
kg/m ²	8.28	12.73	15.90	18.56	21.85	24.70	28.03	31.81	35.20	38.17

1,200 x 3,000 mm.

Thickness	6	8	10	12	14	16	18	20	22	24
kg/board	29.81	38.57	48.85	57.86	68.14	77.14	87.43	96.42	106.70	115.70
kg/m ²	8.28	13.40	16.74	20.1	23.66	26.78	30.34	33.48	37.05	40.18

1,220 x 2,440 mm.

Thickness	6	8	10	12	14	16	18	20	22	24
kg/board	24.65	32.39	41.08	48.58	56.68	64.78	72.87	80.97	89.06	97.16
kg/m ²	8.28	13.8	16.32	19.04	21.76	21.76	24.48	27.2	29.92	32.64

Maximum tolerance of THICKNESS

Thickness (mm.)	Average from Lab test
6, 8, 10	+ - 1.0 mm.
12, 14, 16, 18	+ - 1.2 mm.
20, 22, 24	+ - 1.5 mm.

Maximum tolerance of DIMENSION

	Average from Lab test
Diagonal	+ - 4.0 mm.
Length / Width	+ - 2.0 mm.

PANEL WORLD COMPANY LIMITED

83/1 M00 11, SETHAKIT 1 RD., KLONGMADUE, KRATHUMBAN, SAMUTSAKORN, THAILAND 76140

Tel. (6634) 473 033-4 Fax. (6634) 471404 Email : info@panelworld.com

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

TRADE NAME: SMILE BOARD

PRODUCTION NAME : CEMENT BONDED PARTICLE BOARD

MANUFACTURER: PANEL WORLD CO., LTD.

83/1 M00 11, SETHAKIT 1 RD., KLONGMADUE,

KRATHUMBAN, SAMUTSAKORN, THAILAND 76140

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SECTION 2- COMPOSITION/INFORMATION ON INGREDIENTS

MAIN COMPONENTS	Wt %	CAS Registry
Portland Cement	61	65997-15-1
Wood flake	28	None
Water	10	None
Aluminium Sulphate	0.5	16828-12-9
Sodium Silicate	0.5	1344-09-8

Section 3: Physical and Chemical Properties

APPEARANCE: Grey Board

ODOUR: Newly manufactured boards and freshly may have a cement odour.

BOILING POINT: Not applicable

MELTING POINT: Not applicable

SPECIFIC GRAVITY: 1.25 to 1.35

VAPOUR PRESSURE:	Not applicable
VAPOUR DENSITY:	Not applicable
pH:	11 - 12
FLAMMABILITY:	Not applicable
FLASH POINT:	Not applicable
FLAMMABLE LIMITS IN AIR:	Not applicable
IGNITION :	Not applicable under normal condition of use

SECTION 4 - HAZARDS IDENTIFICATION

GENERAL CHARACTERIZATION OF THE SUBSTANCE/ PREPARATION:

The product is not classified as hazardous material.

HUMAN HEALTH AND ENVIRONMENTAL EFFECT:

The production process of Cement-bonded Particleboard does not produce any adverse health effect. During the use of Cement-bonded Particleboard, dust is produced which may cause mechanical irritation to the eyes, respiratory system and skin.

SECTION 5 - FIRST AID MEASURES

GENERAL INSTRUCTION:	Mentioned instructions are related to dust exposures during cutting, sanding or other working with the product. It may cause irritation to the eyes and skin.
INHALATION:	Remove to fresh air
EYE CONTACT:	Flush eyes thoroughly with water at least 15 minutes. If irritation occurs, seek medical attention.
SKIN CONTACT:	Wash the affected area with soap and water
INGESTION:	Not applicable under normal use.

SECTION 6 - FIRE-FIGHTING MEASURES

FLASH POINT:	Not applicable
EXPLOSION HAZARDS:	This product does not present an explosion hazard. Manual or mechanical cutting or abrasion processes performed on the product can result in generation of dust which may present an explosion hazard.
FIRE EXTINGUISHING MEDIA:	The product is not flammable, use extinguishing media as foam and water to surrounding conditions.

SECTION 7 - ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION: Make sure to use appropriated personal safty equipment. See more in section 9.

ENVIRONMENTAL PROTECTION: The work area must be well ventilated. Colldust with an appropriate vacuum cleaner to maintain the dust level below PEL/TVL in surrounding work place.

SECTION 8 - HANDLING AND STORAGE

PRECAUTIONARY MEASURES FOR SAFE HANDLING: While treating Cement-bonded Particleboard, ie. Cutting, drilling, milling, and brushing, use personal protection equipment as provided in section 7.

HANDLING: Handle the board in the vertical position. Maintain good hygiene, wash hand and face after work.

CONDOTION FOR SAFE STORAGE:

- Store in sheltered dry location.
- Lay flate on the level support at 60 centimeter centered. Do not store in the upright position.
- if storage outside, a protective plastic sheet must be secured to protect from weather condition.

SECTION 9 - EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

Name	CAS	PELc(mg/m ³)
Cement	65997-15-1	10

OCCUPATIONAL EXPOSURE: Provided sufficient ventilation system while treating Cement-bonded Particleboard for example drilling, milling and sanding. Only people using personal protection are allowed to work with the product. Wash hands and face throughly with soap and water after work.

PERSONAL PROTECTION:

Respiratory protection:	Not necessary if sufficient ventilation is provided.
Eye protection:	Wear safty glasses
Protection of hand:	Wear protection gloves
Skin protection:	Wear protrction clothing

SECTION10: STABILITY AND REACTIVITY

CONDITION WHEN THE PRODUCT IS STABIL: The product is stable in nomal used condition.

CONDITION TO AVIOD: Humidity

SECTION11: DISPOSALCONSIDERATOINS

Treat as construction idustry waste comply with all federal, state, and local regulations.

SECTION 12: TRANSPORT INFORMATION

The product is not subject to the regulations regarding to transport of dangerous goods because the product is not hazardous material.

SECTION 13: OTHER INFORMATION

All information and recommendations contained herein are believed to be reliable. However, no warranty or guarantee of any kind expressed or implied is made with respect to the information contained herein. As the condition or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material.

END OF SECTION

(Garuda)

Licence No. (1)5353-4/878

Form IS.2

LICENCE

TO DISPLAY THE STANDARDS MARK ON INDUSTRIAL PRODUCTS

By virtue of the Industrial Product Standards Act, B.E.2511 (1968), the Industrial Product Standards Council issues this licence to

Panel World Co., Ltd.

to display the Standards Mark only on the industrial product cement bonded particleboards: high density manufactured in conformity with the Thai Industrial Standard for Cement Bonded Particleboards: High Density No. TIS 878-2537(1994) trademark.

manufactured at the factory named Panel World Co., Ltd. situated at address 83/1 Setthakit 1 Rd., Commune No.11, Khlong Maduea, Krathum Baen District Province Samut Sakhon Factory Register No. 3-34(3)-1/32SA

Provided that the conditions for licensing set by the Council are complied with.

Given on 26 September B.E. 2551(2008)

Translation approved (Mr. Supachai Tepatanapong) Director, International Affairs Bureau Thai Industrial Standards Institute Date 21/04/2009

(Signature) (Pairoj Sanyadechakul) Secretary-General Thai Industrial Standards Institute

Thai Industrial Standards Institute Ministry of Industry

Licencee's tax identification number: 3032416498

Warning: Licensee has an obligation to fulfil conditions set by the Council.

(Translation)

Attachment to Licence No.(1)5353-4/878

Item No.	Details of the Licensed Industrial Product (specify class, type, size, grade, etc.)	Responsible Officer	Remarks
1.	Unsanded type, nominal thickness 8, 10, 12, 16, 18, 20 and 24 mm	(Signature) (Mrs. Rampaipan Nakasatis) Director, Standards Bureau 1	

SMILE BOARD LOADING TABLE

LOADING TABLE ~ DISTRIBUTED LOAD

SPAN (cm)	MAX. LOAD FOR EACH THICKNESS (Kg/ M2)			
	16mm	18mm	20mm	24mm
40 x 40	610	770	960	1440
40 x 60	410	520	650	950
40 x 120	340	440	550	790
60 x 60	250	320	410	600
60 x 120	140	180	230	330

Remarks:

1. The loading weight included weight of surface covering material
2. The loading weight is for reference of distributed load capacity
It is not applicable to Point Load, Impact Load and Vibration Load.
3. The span must support the board all 4 edges.
4. Thickness below 20mm are suitable for partition, and for floor loading with high attention on design structure of beams.

By PANEL WORLD Co.,Ltd.

www.Panelworld.co.th