Form NSC/TISI 2

(Garuda)

Certificate No. 15T020/0223

Certificate of Laboratory Accreditation

By virtue of National Standardization Act B.E. 2551 (2008)

Secretary-General, Thai Industrial Standards Institute

Issue this Certificate for

Department of Science Service

Chemistry Program

Laboratory address :

75/7 Rama VI Road, Thung Phaya Thai, Ratchathewi, Bangkok

This laboratory is accredited for testing

in accordance with the Thai Industrial Standard TIS 17025-2548 (2005) (ISO/IEC 17025:2005)

General Requirements for the Competence of Testing and Calibration Laboratories

Accreditation No. TESTING 0018

The scope of accreditation is as annexed hereto.

Issue date : 13 March B.E. 2558 (2015)

Valid date : 12 March B.E. 2561 (2018)

(Signature)

(Hathai Uthai)

Secretary-General

Thai Industrial Standards Institute

Translation approved

(Yannapat Uthongsap)

Director

Office of the National Standardization Council

Date: 17 April 2015

Date of initial issue: 23 December B.E. 2540 (1997)

Ministry of Industry, Thai Industrial Standards Institute

Translation Note: In the event of doubt or misunderstanding, the original in Thai shall be the authoritative.

Scope of Accreditation for Testing

Certificate No. 15T020/0223

Laboratory name : Testing Laboratory
: Chemistry Program, Department of Science Service
Address : 75/7 Rama VI Road, Thung Phaya Thai, Ratchathewi, Bangkok
Accreditation No. : TESTING 0018
Laboratory status : ☑ Permanent ☐ Site ☐ Temporary ☐ Mobile

Field of Tested	Parameter	Test Method
Chemical field		
1. Aluminium and aluminium alloy No.1100	- Manganese 0.004 2 % to 0.079 % by weight - Copper 0.004 2 % to 0.30 % by weight - Iron 0.004 9 % to 0.88 % by weight - Silicon 0.005 1 % to 0.76 % by weight - Zinc 0.004 4 % to 0.16 % by weight	- In-house method : CD.I1.TM.AE.01 based on ASTM E 1251-11
2. Aluminium alloy No.3003	- Manganese 0.81 % to 1.54 % by weight - Copper 0.004 2 % to 0.30 % by weight - Iron 0.004 9 % to 0.88 % by weight - Silicon 0.005 1 % to 0.76 % by weight - Zinc 0.004 4 % to 0.16 % by weight	- In-house method : CD.I1.TM.AE.02 based on ASTM E 1251-11

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Accreditation No. : TESTING 0018

Laboratory status : ☑ Permanent ☐ Site ☐ Temporary ☐ Mobile

Field of Tested	Parameter	Test Method
Chemical field		
3. Stainless steel	- Chromium 9.06 % to 25.39 % by weight - Nickel 5.61 % to 20.05 % by weight - Manganese 0.235 % to 5.0 % by weight - Molybdenum 0.046 4 % to 3.25 % by weight - Silicon 0.042 % to 1.05 % by weight - Carbon 0.023 % to 0.281 5 % by weight - Phosphorous 0.007 % to 0.032 % by weight - Sulfur 0.003 8 % to 0.030 % by weight	- In-house method : CD.I1.TM.AE.03 based on ASTM E 1086-08
4. Plastic and electronic plastic part	- Polybrominated biphenyl • Monobrominated biphenyl to Decabrominated biphenyl 100 mg/kg sample to 1 750 mg/kg sample	- IEC 62321 : 2008 , Edition 1.0, Annex A

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Field of Tested	Parameter	Test Method
Chemical field		
4 Plastic and electronic plastic part (cont.)	- Polybrominated diphenyl ether • Monobrominated diphenyl ether to Nonabrominated diphenyl ether 100 mg/kg sample to 1 750 mg/kg sample • Decabrominate diphenyl ether 100 mg/kg sample to 8 000 mg/kg sample	- IEC 62321 : 2008, Edition 1.0, Annex A
5. Plastic	- Dibutyl phthalate 0.04 % to 0.38 % by weight - Benzyl butyl phthalate 0.04 % to 0.38 % by weight - Di-(2-ethylhexyl) phthalate 0.04 % to 0.38 % by weight - Di-n-octyl phthalate 0.04 % to 0.38 % by weight - Diisononyl phthalate 0.08 % to 0.75 % by weight - Diisodecyl phthalate 0.08 % to 0.75 % by weight	- In-house method : CD.AO.TM.GM.02 based on CPSC-CH-C1001-09.3 : 2010
	- Phenol 7 mg/kg sample to 300 mg/kg sample	- In-house method : CD.AO.TM.LC.01 based on EN 71-11 : 2005

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Field of Tested	Parameter	Test Method
Consumer products field		
1. Silicone product	- Cadmium 0.5 mg/kg sample to 50 mg/kg sample - Chromium 5 mg/kg sample to 250 mg/kg sample - Lead 5 mg/kg sample to 250 mg/kg sample - Barium 5 mg/kg sample to 250 mg/kg sample - Antimony 10 mg/kg sample to 500 mg/kg sample - Arsenic 10 mg/kg sample to 500 mg/kg sample - Selenium 10 mg/kg sample to 500 mg/kg sample - Mercury 2.5 mg/kg sample to 50 mg/kg sample	- EN 71-3 : 1995 - EN 14350-2 : 2004

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Laboratory status : ☑ Permanent ☐ Site ☐ Temporary ☐ Mobile

Field of Tested	Parameter	Test Method
Consumer products field 2. Product for children : plastic	- Cadmium 0.5 mg/kg sample to 50 mg/kg sample - Chromium 5 mg/kg sample to 250 mg/kg sample - Lead 5 mg/kg sample to 250 mg/kg sample - Barium 5 mg/kg sample to 250 mg/kg sample - Antimony 10 mg/kg sample to 500 mg/kg sample - Arsenic 10 mg/kg sample to 500 mg/kg sample - Selenium 10 mg/kg sample to 500 mg/kg sample - Mercury 2.5 mg/kg sample to 50 mg/kg sample	- EN 71-3 : 1995

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Field of Tested	Parameter	Test Method
Consumer products field		
3. Textile	- Formaldehyde 7.6 mg/kg sample to 86.8 mg/kg sample	- In-house method : CD.AO.TM.LC.02 based on ISO 14184-1 : 1998 and ISO 17226-1 : 2008 - In-house method CD.AO.TM.LC.02 based on Toy safety standard ST-2002, 10th edition 2010 and ISO 17226-1 : 2008
4. Ceramic ware and glassware in contact with food	- Cadmium 0.02 mg/L to 0.5 mg/L - Lead 0.2 mg/L to 5.0 mg/L	- ISO 6486-1 : 1999 - TIS 32-2546 (2003)
5. Ceramic ware in contact with food	- Cadmium 0.02 mg/L to 0.5 mg/L - Lead 0.2 mg/L to 5.0 mg/L	- 84/500/EEC (with amendment 2005/31/EC of 29 April 2005)
6. Glassware in contact with food	- Cadmium 0.02 mg/L to 0.5 mg/L - Lead 0.2 mg/L to 5.0 mg/L	- ISO 7086-1 : 2000 - TIS 603-2546 (2003)

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Field of Tested	Parameter	Test Method
Cevil field		
1. Ceramic tiles	- Chemical resistance	- ISO 10545-13 - TIS 2508 : 2555 (2012) refered to TIS 2398 part 13 : 2553 (2010)
	- Resistance to stains	- ISO 10545-14 - TIS 2508 : 2555 (2012) refered to TIS 2398 part 14 : 2553 (2010)
	- Resistance to deep abrasion for unglazed tiles	- ISO 10545-6 - TIS 2508 : 2555 (2012) refered to TIS 2398 part 6 : 2553 (2010)
	- Resistance to surface abrasion for glazed tiles	- ISO 10545-7 - TIS 2508 : 2555 (2012) refered to TIS 2398 part 7 : 2553 (2010)

Issue date : 13 March B.E. 2558 (2015)

(Signature)

(Hathai Uthai)

Secretary-General

Thai Industrial Standards Institute