

(Garuda)

Certificate No. 20T226/1204

Certificate of Laboratory Accreditation

by Virtue of National Standardization Act B.E. 2551 (2008)

Secretary-General, Thai Industrial Standards Institute

Issues this Certificate to

Fuji Tusco Co., Ltd.

Laboratory address :

612-612/1, 1888 Moo 4, Bangpoo Industrial Estate Soi 8, 9A,
Pattana 1 Road, Phraeksa, Muang Samutprakan, Samutprakan

This laboratory is accredited for testing
in accordance with the Thai Industrial Standard TIS 17025-2561 (2018) (ISO/IEC 17025:2017)
General requirements for the competence of testing and calibration laboratories

Accreditation No. TESTING 0431


The scope of accreditation is as annexed hereto.

Valid from 21st December B.E. 2563 (2020)

Valid until 20th December B.E. 2566 (2023)

Issue date 30th December B.E. 2563 (2020)

Translation approved



(Mr. Ekanit Romyanon)

Director

Office of the National Standardization Council

Date 29th July 2021

(Signature)

(Mrs. Kamonwan Chamlerdwat)

Deputy Secretary - General

For Secretary - General

Thai Industrial Standards Institute



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. 20T226/1204

Laboratory Name Fuji Tusco Co., Ltd.
 Address 612-612/1, 1888 Moo 4, Bangpoo Industrial Estate Soi 8, 9A, Pattana 1 Road,
 Phraeksa, Muang Samutprakan, Samutprakan
 Accreditation No. Testing 0431
 Laboratory Status Permanent Site Temporary Mobile

Field of Testing	Parameter	Test Method
Electrical field 1. Power Transformers Oil immersed type transformers - 1 Phase transformers with rated power 30 kVA up to and including 100 kVA and rated voltage up to and including 36 kV - 3 Phase transformers with rated power 25 kVA up to and including 300 MVA and rated voltage up to and including 230 kV - 3 Phase transformers with rated power 25 kVA up to and including 300 MVA and rated voltage up to and including 230 kV	<ul style="list-style-type: none"> - Measurement of winding resistance - Measurement of voltage ratio and check of phase displacement - Measurement of short-circuit impedance and load loss - Measurement of no-load loss and current - Applied voltage test - Lightning impulse tests - Temperature rise test - Measurement of winding resistance - Measurement of voltage ratio and check of phase displacement - Measurement of short-circuit impedance and load loss - Measurement of no-load loss and current - Zero-sequence impedance on three phase transformers 	<ul style="list-style-type: none"> - TIS 384-2543 (2000) - IEC 60076-1 Edition 3.0 : 2011-04 - TIS 384-2543 (2000) - IEC 60076-1 Edition 3.0 : 2011-04

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Field of Testing	Parameter	Test Method
<p>Electrical field</p> <p>1. Power Transformers Oil immersed type transformers (cont.)</p> <ul style="list-style-type: none"> - 1 Phase transformers with rated power 30 kVA up to and including 100 kVA and rated voltage up to and including 36 kV - 3 Phase transformers with rated power 25 kVA up to and including 300 MVA and rated voltage up to and including 230 kV 	<ul style="list-style-type: none"> - Measurement of insulation resistance - Applied voltage test - Induced voltage test - Lightning impulse tests - Temperature rise test - Determination of sound level 	<ul style="list-style-type: none"> - IEC 60076-1 Edition 3.0 : 2011-04 referred to IEEE standards C57.12.90-2015 - IEC 60076-1 Edition 3.0 : 2011-04 - IEC 60076-3 Edition 3.0 : 2013-07 - IEC 60076-1 Edition 3.0 : 2011-04 - IEC 60076-2 Edition 3.0 : 2011-02 - IEC 60076-10 Edition 1.0 : 2001-05 - IEC 60076-10-1 Edition 1.0 : 2005-10

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Field of Testing	Parameter	Test Method
Electrical field 2. Power Transformers Dry type transformers - 3 Phase transformers with rated power 500 kVA up to and including 5 000 kVA and rated voltage up to and including 36 kV	<ul style="list-style-type: none"> - Measurement of winding resistance - Measurement of voltage ratio and check of phase displacement - Measurement of short-circuit impedance and load loss - Measurement of no-load loss and current - Applied voltage test - Lightning impulse tests - Temperature rise test - Zero-sequence impedance on three phase transformers - Measurement of winding resistance - Measurement of voltage ratio and check of phase displacement - Measurement of short-circuit impedance and load loss - Measurement of no-load loss and current - Zero-sequence impedance on three phase transformers - Measurement of insulation resistance 	<ul style="list-style-type: none"> - TIS 384-2543 (2000) - IEC 60076-11 Edition1.0 : 2004-05 - IEC 60076-1 Edition 3.0 : 2011-04 - IEC 60076-1 Edition 3.0 : 2011-04 referred to IEEE standards C57.12.90-2015

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Field of Testing	Parameter	Test Method
Electrical field 2. Power Transformers Dry type transformers (cont.) - 3 Phase transformers with rated power 500 kVA up to and including 5 000 kVA and rated voltage up to and including 36 kV	<ul style="list-style-type: none"> - Applied voltage test - Induced voltage test - Lightning impulse tests - Temperature rise test - Determination of sound level 	<ul style="list-style-type: none"> - IEC 60076-11 Edition 1.0 : 2004-05 - IEC 60076-3 Edition 3.0 : 2013-07 - IEC 60076-11 Edition 1.0 : 2004-05 - IEC 60076-2 Edition 3.0 : 2011-02 - IEC 60076-10 Edition 1.0 : 2001-05 - IEC 60076-10-1 Edition 1.0 : 2005-10

Issue date 30th December B.E. 2563 (2020)

(Signature)

(Mrs. Kamonwan Chamlerdwat)
 Deputy Secretary - General
 For Secretary - General
 Thai Industrial Standards Institute