

Laboratory Ref: 16Q1626-S

21 September
2016

To whom it may concern

Subject: ASTA Type Test For Qingdao TGOOD HGIS and CB

MANUFACTURER: QINGDAO TGOOD ELECTRIC CO., LTD
Shangde 1st Avenue Qingdao Jiaozhou Economic and
Technological Development Zone, P. R. China

APPARATUS & RATINGS: 2500 A, 145 kV, 50/60 Hz, SF6 gas-insulated metal-enclosed switchgear (HGIS) incorporating a three-phase Circuit Breaker and a three-phase Disconnecter combined with an Earthing Switch.
3150 A, 145 kV, 50/60 Hz, SF6 gas-insulated metal-enclosed three-phase Circuit Breaker (CB).

DESIGNATION: THP 145-40-25 (HGIS)
TCB 145-40-31 (CB)

TESTED BY: Dielectric tests, mechanical endurance tests performed by:
Laboratory of QINGDAO TGOOD ELECTRIC CO., LTD
Shangde 1st Avenue Qingdao Jiaozhou Economic and Technological Development Zone, P. R. China
Temperature rise test performed by:
China National Centre for Quality Supervision and Inspection of Electrical Apparatus Products (EETI)
No.5 Qianzhu Rd., Yuexi, Wuzhong District, Suzhou, China

WITNESSES OF THE TESTS: Mr. Jim Hua – ASTA observer, Intertek
Mr. Kevin Huang – Intertek Guangzhou

DATES OF TESTS: 9 August 2016 to 21 September 2016

TEST IN ACCORDANCE WITH: IEC 62271-205: Ed 1.0, 2008;
IEC 62271-100: Ed 2.1, 2012;
IEC 62271-102: Ed 1.0, 2013;
IEC 62271-1: Ed 1.1, 2011-08
and the relative STL guides.

The summary of the tests performed on above apparatus and the result obtained are detailed on the following pages.

Test items to IEC 62271-205: 2008

No	Test content	Clause	Verified Tests and Ratings
1	Dielectric test	6.2	
	-Power frequency withstand test	6.2.6.1	275 kV 315 kV (across Isolating distances)
	-Lightning impulse withstand test	6.2.6.2	650 kV 750 kV (across Isolating distances)
	-Partial discharge	6.2.9	< 5 pC
2	Measurement of the resistance of Main circuit	6.4	≤100 uΩ at 100A DC
3	Temperature rise test	6.5	2500 A at 60 Hz

Test items to IEC 62271-100: 2012

No	Test content	Clause	Verified Tests and Ratings
1	Measurement of the resistance of Main circuit	6.4	≤100 uΩ at 100A DC
2	Temperature rise test	6.5	3150 A at 60 Hz
3	Extended mechanical endurance tests on class M2 circuit breakers	6.101.2.4	10000 cycles

Test items to IEC 62271-102: 2013

No	Test content	Clause	Verified Tests and Ratings
1	Mechanical operation tests at ambient temperature	6.101.2	2000 cycles

Performance:

The performance of the apparatus under testing were considered satisfactory and will be subjected to the final analysis & review by Intertek Testing & Certification Ltd., the ASTA type test certificates will be issued in respect to these tests.

Jim Hua 

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