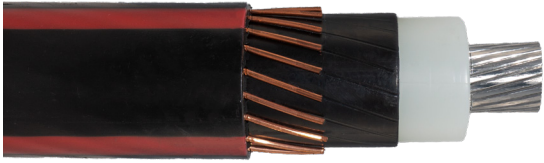


# PowerGuard® Testing Recommendations



Regarding field testing cables for commissioning, we recommend the VLF Testing in Accordance to IEEE 400: IEEE Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems in accordance to Table 1 IEEE400.2 VLF Test Voltage Levels for Sinusoidal, Cosine-Rectangular. Voltage Peak values are shown in brackets for Cosine-Rectangular and Squarewave.

The most important application part of the new IEEE400.2 cable testing guide is the Table 1 below that shows the recommended VLF Hipot voltage testing levels for the various medium voltage cable ratings for both new (Acceptance and Installation Testing) and old (Maintenance Testing) cable installations.

This is a Pass/Fail type test, the cable either withstands the specified test voltage or it does not.

The IEEE400 defines types of field tests:

#### INSTALLATION TEST

This test is conducted after the installation of the cable but before the installation of accessories like the splices and terminations. Its purpose is to detect any transport, manufacturing, storage or installation defects.

#### ACCEPTANCE TEST

This test is performed after the installation of the accessories, but before energization of the cable. It checks for installation defects of the complete cable system, as well as defects as a result of shipping, manufacturing or storage.

#### TEST FREQUENCY

VLF test frequency is 0.1Hz of a testing of 30 minutes.

Cable Rating phase to phase (RMS) kV rms	Installation Test phase to ground kV rms (or peak)	Acceptance Test phase to ground kV rms (or peak)	Maintenance Test phase to ground kV rms (or peak)
5	9 (13)	10 (14)	7 (10)
8	11 (16)	13 (18)	10 (14)
15	18 (25)	20 (28)	16 (22)
25	27 (38)	31 (44)	23 (33)
35	39 (55)	44 (62)	33 (47)



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