



UPM
UNIVERSITI PUTRA MALAYSIA
BERILMU BERBAKTI

**Centre of Excellence on Lightning Protection
(CELP)**

Faculty of Engineering, Universiti Putra Malaysia,
43400 UPM Serdang, Selangor, MALAYSIA
Tel: +603-8946 6322/23/08 Fax: +603-8946 6327
http://www.eng.upm.edu.my/celp



CENTRE OF EXCELLENCE
ON LIGHTNING PROTECTION

**'Promoting Research, Applications and Education on
Lightning'**

ELECTRICAL EARTHING / GROUNDING MATERIAL TEST REPORT

(This report contains 01 page)

Product Description	One Sample of BENTOEARTH (BENTONITE for Electrical Earthing / Grounding)
Product Owner / Client	Zeemax Venture
Sample Size and nature	25 kg sealed sac with production/brand logo and company details printed in the cover
Sample Submitted by	Zeemax Venture
Sample Received Date	27 th July, 2012
Date Tested	2 nd August, 2012
Date Reported	9 th August, 2012
Lab Report Number	CELP-ZEEMAX-082012-001

TEST- RESULTS

Physical Properties

TEST	UNIT	RESULT / RMARKS
VISUAL APPEARANCE	-	DARK TAN (POWDERED FORM)
DRY BULK DENSITY (AVERAGE) @ 47.7N COMPACTION FORCE	g/cm ³	1.17
RESISTIVITY (AVERAGE) @ 100% MOISTURE CONTENT SAMPLE MIXED WITH WATER (1:1 RATIO BY VOLUME)	Ω-m	0.8
WET BULK DENSITY (AVERAGE) @ 1:1 RATIO BY VOLUME	g/cm ³	1.58
CONDUCTIVITY (AVERAGE) @ 100% MOISTURE CONTENT SAMPLE MIXED WITH WATER (1:1 RATIO BY VOLUME)	S/m	1.25

Sample has been tested and analyzed for physical properties at HV laboratory, CELP, UPM

Signature & Stamp

Dr. Mohd Zainal Abidin Ab Kadir, *PhD(UK), CEng(UK), MI*
Director

