

# TESTING REGIME



## EXAMPLES OF PERFORMANCE TESTING

Our products have been subjected to vigorous laboratory and real world testing to give you the utmost confidence in their integrity and performance. Summary of test results available on the website and copies of the test results are available on request.

Full performance testing of EMCPA cutout insulators was completed by Powertech Labs in Vancouver. They also underwent an electrical utility designed energized ageing comparison performance test. A number of competitive polymeric products failed the comparison test in which the EMCP product remained uncompromised.

## GLOBAL STANDARDS

We meet or exceeded the performance requirement for the relevant ANSI, CEA, IEC & AS/NZS standards in the following tests:

- ❖ Base/Wood crossarm interface
- ❖ BIL
- ❖ Cantilever strength
- ❖ Dry Power frequency
- ❖ Lightning impulse flashover
- ❖ Power arc
- ❖ RIV
- ❖ Thermal shock and cycling
- ❖ Tracking and erosion (dip wheel method) with steep front
- ❖ Water penetration
- ❖ Wet power frequency

EMCPA's LPI36-1100 (36kV line post insulator) underwent very heavy pollution and natural ageing coastal testing at the Koeberg Insulator Pollution Test Station (KIPTS) in South Africa. Both winter and summer cycles were successfully completed with the insulator achieving an extreme pollution evaluation at 22kV. KIPTS is regarded as one of the most rigorous test regimes globally delivering results that can be relied on as indicative to real world long term performance. This is a recognized real world equivalent of undergoing a 5000 hour salt fog laboratory insulator test.



ACCEPTANCE CRITERIA	RESULT		COMMENT
	L-M	H-VH	
No more than three over current trip outs	Pass	Pass	None
No signs of material erosion deeper than 2mm	Pass	Pass	None
No signs of tracking in the material	Pass	Pass	None
No signs of corrosion that has exposed the base metal or can lead to failure of hardware	Pass	Pass	None
The material analysis completed			None



Material samples have undergone QUV type 'A' cyclic testing alongside standard CEP and other formulations. The tests were conducted to 7500+hours, which is the equivalent of over 40 years of natural aging, and the surface remained non-absorbent. In contrast with other materials, the samples retained hydrophobic properties for the entire test.

## SPRAY TEST HYDROPHOTIC EVALUATION ON ACCELERATED WEATHERING ACCELERATED WEATHER RESULTS UP TO 400 HOURS

System Reference	Epoxy	Silica Treatment	0 Hours	1000 hours (1-7)	2000 hours (1-7)	4000 hours (1-7)
SRES	Cycloaliphatic Epoxy Resin (CEP)	Epoxy Silane	Maximum beading (1)	Full Beading (2)	Poor Beading (4)	Beading and Sheeting (5)
HSIL	Cycloaliphatic Epoxy Resin (CEP)	HSIL	Maximum beading (1)	Full Beading (2)	Poor Beading (2)	Full Beading (2)

Extract from 4000 hr test report