

PH-CEP CUTOUT INSULATOR SOLUTION

APPLICATION

EMC Pacific Pty Ltd's permanently hydrophobic cycloaliphatic epoxy resin technology (PH-CEP) has been successfully applied to enhance the performance of cutout insulators in extreme weather conditions, providing electrical utilities with a solution to cutout integrity challenges. Brittle fractures of cutout insulators in cold environments have been a significant safety issue for global electrical utilities and are particularly dangerous when engaging or disengaging a fuse tube when the cutout has been compromised by moisture ingress. EMC Pacific identified that a solution for many cutout reliability issues could be achieved through combining the thermal crack resistance and hydrophobic properties of their proprietary PH-CEP with a well proven cut out insulator design.

DESIGN

The tough one piece PH-CEP moulding with sturdy non corrosive line hardware has no cemented or crimped fittings to the insulator body eliminating any possibility of moisture ingress to the insulator core which has caused numerous failures associated with ceramic and composite cutouts. The shedding of the 'D' type cutout insulator has proven to be instrumental in exceptional performance in very high pollution environments because:

- ▲ The moulded skirts around the mounting hardware extend the BIL affording greater insulation from the live contacts to the mounting brackets. They additionally create a flashover shield for grounded mounting brackets, a feature which has established this product in conditions where competitive products have failed.
- ▲ The 'D' type geometry of the EMC Pacific cutout insulator also extends the distance of live contacts away from the mounting hardware.
- ▲ The significant shed angle provides for excellent natural wash off of pollutants and prevention of dry banding, extending insulator performance and life.

STANDARDS

EMC Pacific IXI insulators are designed to meet or exceed the Polymeric Resin Insulator requirements of IEC & AS 62217(2007) and the relevant performance requirements of AS IEC 60720(2007), AS/NZS2947.2(2002), AS 4899(2007), AS 4435.4(2005), IEC 61952(2008), ANSI C29.5(1984) and CEA LWIWG-02.

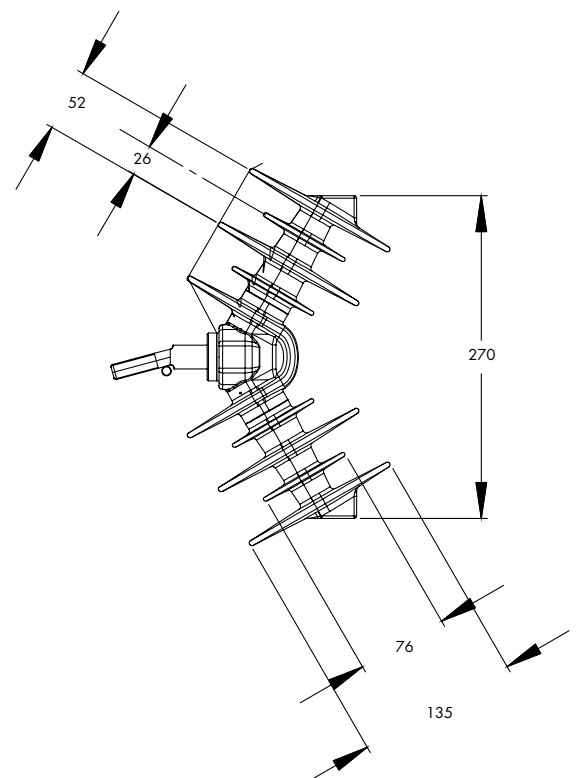
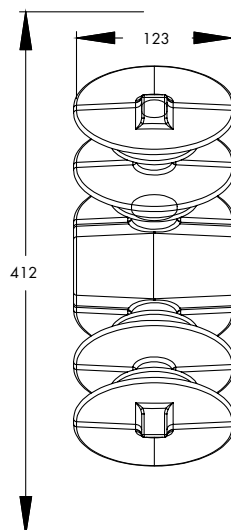
The performance testing at Powertech Labs has demonstrated compliance to relevant IEC, ANSI, CSA & IEEE standards for voltage rating of 27kV and current rating of 200A. In addition to passing the normal dielectric, interrupting, temperature rise, radio interference and mechanical design tests, EMC Pacific's PH-CEP cutout insulators succeeded in passing the CSA C310-(2010) standard which has an added special thermal cycle testing to ensure the performance of the cut-out in extreme weather conditions of -50°C to $+50^{\circ}\text{C}$. This standard also has tests to simulate field tracking, erosion and aging, along with the steep-front impulse voltage test and the post ageing test requirements – all of which were passed with flying colours.

QUALITY

Each cutout insulator is put through stringent quality assurance in line with the EMC Pacific ISO9001 Quality Management System, and every product is uniquely identifiable from a UIN located on the base.

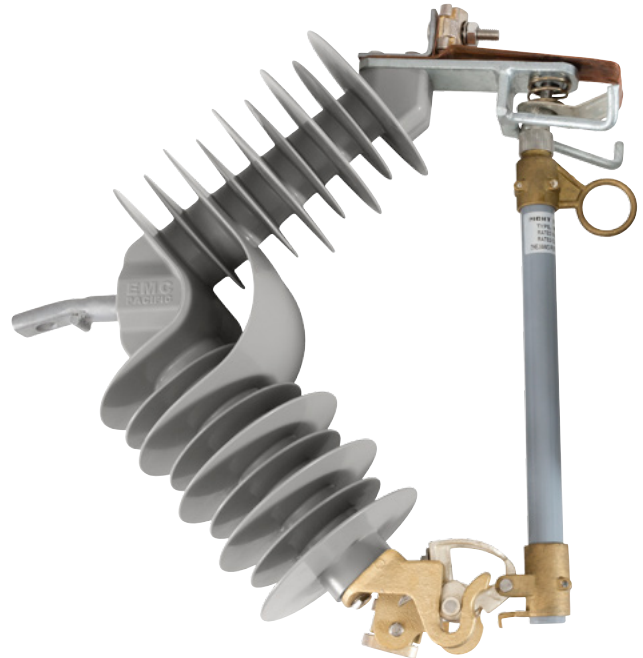


COI-27



PH-CEP CUTOUT INSULATOR SOLUTION

SPECIFICATIONS		Australasia		North America	
Product Number		COI-24		COI-27	
Rated Maximum Voltage		up to 27	kV	up to 27	kV
Rated Current		200	A	200	A
Interrupting Capacity R.M.S (SYN)		12	kA	12	kA
Min Dry Arc Distance		303	mm	11.9	in.
Creepage		920	mm	36.2	in.
Impulse Withstand (Positive)		216	kV	216	kV
Impulse Withstand (Negative)		290	kV	290	kV
Power (low) Frequency Flashover Voltage	Dry	108	kV	108	kV
	Wet	96	kV	96	kV
Power (low) Frequency Withstand Voltage	Dry	116	kV	116	kV
	Wet	83	kV	83	kV
3 Point Bend Test (CSA C310-09)		PASS		PASS	
Maximum Shed Diameter		133.6	mm	5.26	in.
Weight		6.27	kg	13.8	lbs.



COI-27

SPECIFICATIONS		Australasia		North America	
Product Number		COI-12		COI-15	
Rated Maximum Voltage		15	kV	15.5	kV
Rated Current		200	A	200	A
Impulse Withstand Voltage		140	kV	140	kV
Power Frequency Withstand Voltage	Dry	50	kV	50	kV
	Wet	38	kV	38	kV
Min Dry Arc Distance		168	mm	6.6	in.
Creepage		485	mm	19.1	in.
Cantilever		11	kN	2500	lbf
Maximum Shed Diameter		135	mm	5.3	in.
3 Point Bend Load (CSA C310-09)		PASS		PASS	
Weight		3.5	kg	7.7	lbs.



COI-15