

From what once required many parts comes... THE ONE

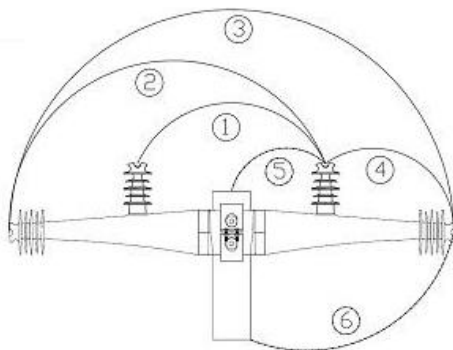
EMC Pacific's integrated cross arm insulator (IXI) certainly looks different to standard square section cross arms, but it is not just its looks that makes it stand out in a crowd. The profile, material, 11kV to 69kV design, electrical and mechanical performance properties have all been carefully engineered and intensively tested to each offer solutions to existing distribution network challenges. Recent independent testing investments have further substantiated the outstanding performance achieved from this Australian designed, manufactured and patented product, the result of 10 years of research and development.

Type Testing

Globally recognised and accredited Powertech Labs based in Vancouver Canada have carried out all electrical type testing to Australian and International standards. Dielectric tests have included both Dry and Wet type power frequency flashover and withstand voltage tests, and Dry lightning impulse flashover voltage test. Water immersion pre-stressing and post immersion tests further included verification, visual steep front impulse and dry power frequency tests. Powertech Labs also undertook tracking and erosion testing and accelerated weathering material tests with uncompromised outcomes. Mechanical testing carried out by SVT Engineering Consultants in Melbourne required purpose built fixtures and included 3 axis mechanical failing load measurements at outside phase and intermediate phase loading points. Those tests along with extensive durability testing at peak loads have confirmed performance well in excess of EMC Pacific's product specification.

Lightning Mitigation and Reducing Flashover

The one-piece IXI cross arm solution provides outside phase insulation suitable for 11kV to 69kV application. Voltage designation is determined by selection from a range of interchangeable intermediate insulators up to 48kV and pole top mounted line post insulators for 69kV. The insulation levels achieved by the IXI positively contribute to lightning mitigation and reducing flashover, through exceptional phase to phase and phase to ground basic insulation levels, material electrical breakdown strength $\geq 18\text{kV/mm}$, effective high pollution leakage distances, non-contamination retaining profile and PH-CEP hydrophobic polymeric resin construction.



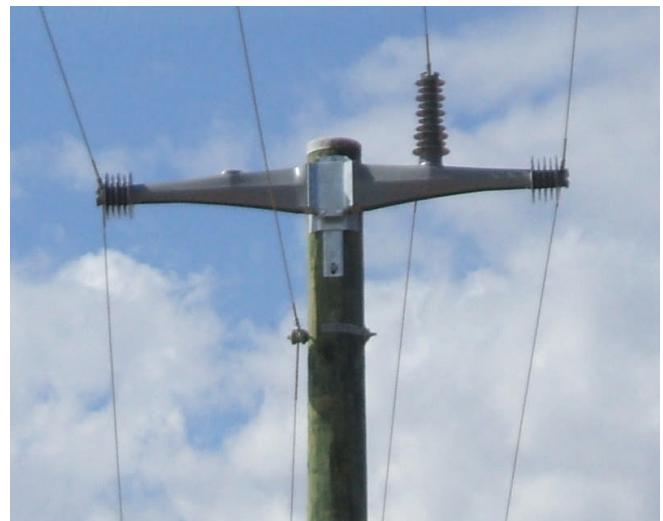
Phase to Phase and Phase to Ground Type Test Configurations

Test Config. Number	Cross Arm Sample No.	Average Flashover Voltage, Positive - Corrected V_{50} (kVpeak)	Average Flashover Voltage, Negative - Corrected V_{50} (kVpeak)	Calculated Withstand Voltage Positive (kVpeak)	Calculated Withstand Voltage Negative (kVpeak)
1	833-4	465.5	476.2	514.1	497.7
	833-8	567.2	517.4		
	833-9	509.5	499.4		
2	833-4	639.2	556.9	606.6	569.9
	833-8	665.3	576.7		
	833-9	515.2	576.1		
3	833-4	917.3	991.7	911.6	958.0
	833-8	911.6	906.9		
	833-9	906.0	975.5		
4	833-4	470.0	493.9	481.5	516.4
	833-8	493.7	527.3		
	833-9	480.8	528.0		
5	833-4	267.9	329.8	264.7	322.3
	833-8	254.0	307.4		
	833-9	272.3	329.7		
6	833-4	644.5	717.7	659.2	719.3
	833-8	670.0	713.8		
	833-9	663.2	726.3		

Dry Lightning Impulse Withstand Voltage Test Results with 22kV Intermediate Configuration

Pole Mounting

The one-piece cross arm and simplified mounting mechanism serve to reduce inventory requirements and pole dressing times. The contour and profile of the mounting bracket is designed so that the IXI can be readily mounted to a broad range of pole tapers and profiles. The length of the mounting bracket has been engineered to fully support the IXI without secondary braces.



A West Australian application of the IXI configured for 33kV Very High Pollution Application

Innovative electrical utilities are now installing and evaluating the IXI as a solution to reducing outages, installation and life cycle costs.

EMC Pacific are welcoming project orders. To learn more or express your interest please contact EMC Pacific via email: inquiries@emcpacific.com.au or telephone +61(3) 9706 6643.