

# Tension and cantilever polymeric insulators for Light Rail applications



Designers of Light rail schemes around the world are becoming increasingly aware of the visual impact of catenary wires in urban landscapes.

W.T. Henley work with designers to reduce this visual impact by incorporating the insulation into the structure; whether this be a registration arm or cantilever arm.

W.T Henley can supply 750 volt, 1500 volt and 3.0kV DC systems with integral insulation. With DC systems the leakage current is more onerous on insulation dielectrics. Therefore bulk insulating properties and not just creepage distances are important.

Moulded onto high strength GRP rods, the insulators utilise Henley's unique

EPDM dielectric cladding. This highly successful cladding material has been proven around the world from deserts to arctic environments for more than 30 years. The material has outstanding pollution and weathering performance. With the arcing and sparking from pantographs, Henley's EPDM self-extinguishing properties make this the ideal material.

Aluminium or cast SG iron, (galvanised) end fittings available to customer specification.

**Projects undertaken include:**

- **KCRC Hong Kong**
- **Istanbul LRT phase II**
- **Sheffield Supertram**
- **Dublin Light Rail**

- **Light weight and low profile, easy to incorporate with overhead catenary supports.**
- **Vandal resistant.**
- **Self extinguishing unique polymer for high dielectric demands.**
- **Low leakage currents even during fog or in polluted environments.**
- **Aluminium or cast SG iron end fittings.**
- **Choice of mounting arrangements.**
- **High creepage with or without sheds.**



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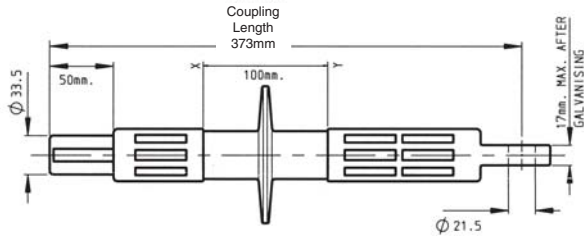
Tel 0044 191 490 1547 Fax 0044 191 477 5371  
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## Typical cantilever insulator 750V CD

Product Code 56101-33

Weight 1.5kg



### Electrical Data

TEST	VALUE	SPECIFICATION
CREEPAGE (mm)	150	IEC815
TAUT STRING (mm)	120	
IMPULSE FLASHOVER (DRY) (kVp)	120	IEC 383:1983 BS137:1982
IMPULSE WITHSTAND (DRY) (kVp)	32	
AC 1 min. FLASHOVER (DRY) (kV)	95	
AC 1 min. WITHSTAND (DRY) (kV)	85	
AC 1 min. FLASHOVER (WET) (kV)	40	
AC 1 min. WITHSTAND (WET) (KV)	15	

### Mechanical Data

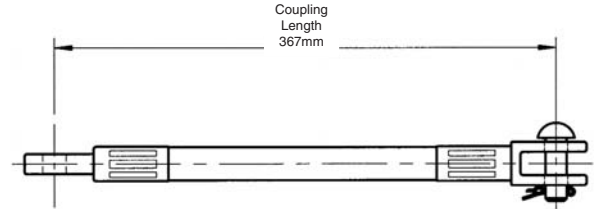
TEST	VALUE	SPECIFICATION
MINIMUM FAILING TENSILE LOAD (kN)	44	WT HENLEY
ROUTINE TEST LOAD (RTL) (kN)	16.5	
MINIMUM FAILING BENDING LOAD ABOUT X-Y (Nm)	2400	WT HENLEY



## Typical tension insulator 750V CD

Product Code 56145-42

Weight 1.25kg



### Electrical Data

TEST	VALUE	SPECIFICATION
CREEPAGE (mm)	200	IEC815
TAUT STRING (mm)	200	
IMPULSE FLASHOVER (DRY) (kVp)	40	IEC 383:1983 BS137:1982
IMPULSE WITHSTAND (DRY) (kVp)	35	
AC 1 min. FLASHOVER (DRY) (kV)	27	
AC 1 min. WITHSTAND (DRY) (kV)	25	
AC 1 min. FLASHOVER (WET) (kV)	20	
AC 1 min. WITHSTAND (WET) (KV)	17	

### Mechanical Data

TEST	VALUE	SPECIFICATION
SPEC. MECHANICAL LOAD (SML) (kN)	70	IEC 1109
ROUTINE TEST LOAD (RTL) (kN)	35	
MINIMUM FAILING TORQUE (Nm)	65	WT HENLEY

### Routine Production Tests

MOULDED SUBSTRATE	WATER IMMERSION/ ELECTRICAL	MIN 1%	BB.QA/P.1-A:1988
FINAL ASSEMBLY	MECHANICAL	100%	50% SML FOR 1 min.
FINAL ASSEMBLY	MECHANICAL	1%	50% SML FOR 1 min. 120% SML for 1 min. PULL TO FAIL

WT Henley also manufacture Railtrack approved 25kV polymeric insulators for railway use across the world.

- **Mk 1 insulator range**
- **Mk 3 insulator range**
- **Twin disc insulators**
- **Triple disc insulators**
- **Return Conductor insulators**



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