

[siemens.com/rail-electrification](https://www.siemens.com/rail-electrification)

Composite insulators up to 3 kV DC

Sicat 8WL3088 for overhead contact line systems

The silicone composite insulators of type Sicat® 8WL3088 in accordance with EN 50151 insulate the live parts of the overhead contact line from one another and from earth. They must therefore meet both electrical and mechanical requirements.

Features

- Soil- and water-repellent plastic surface of the composite insulators
- Low operating costs as well as resistant to breakage and against vandalism due to modern material compound techniques
- Savings on transport, storage and installation due to significant lower weight compared to ceramic and glass insulators
- Very high resistance to flashover
- Modular design for a varied field of application

Electrical data		
Nominal voltage	[kV AC]	25
Power-frequency withstand voltage, wet	[kV]	125
Lightning impulse withstand voltage	[kV]	250

Materials		
Insulator body	glass-fiber reinforced plastic, silicone	
Fittings		
– 8WL3088-1A/-1B	hot-dip galvanized steel	
– 8WL3088-2E	cast aluminium alloy	
Standard parts	stainless steel	

Range of use	
Insulation of terminations in catenaries, cross-spans and traction power lines	
Insulation of cantilevers	

Design

The Sicat 8WL3088 silicone composite insulators consist of the following components:

- Insulating rod made of glass-fiber reinforced plastic (GRP, boric free ECR-glass) as core
- Press-fitted fittings made of aluminium or hot-dip galvanized steel
- Shield and rod sheathing made of silicone

The core acts as the internal insulation and is dimensioned such that the occurring mechanical forces can be absorbed reliably. The shed sleeve in silicone forms the continuous external insulation and the required creepage distance. Thus the core is protected against harmful ambient influences.

Due to the modular construction, any customer specific fittings can be realized on request.

Variants

Composite insulators tongue/tongue for catenaries and terminations

Type		8WL3088-1A	8WL3088-1B
Weight	[kg]	1.5	1.5
Length	[mm]	300	300
Hole diameter	[mm]	21	17
Specified mechan. load (SML)	[kN]	90	90
Perm. operating load (OML)	[kN]	30	30
Minimum creepage distance	[mm]	320	320

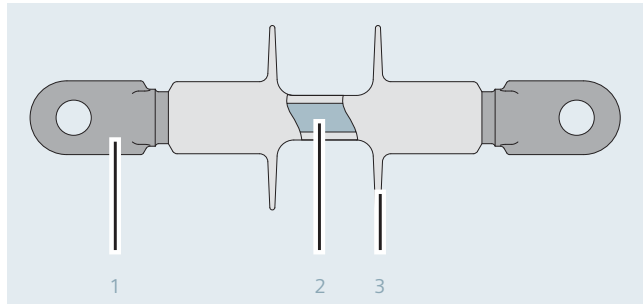
Tests and standards

The silicone composite insulators in accordance with EN 50151 have been subjected to the type tests:

- Mechanical load-time test
- Tensile load test
- Cantilever failing load test
- Wet power-frequency withstand voltage test
- Dry lightning impulse withstand voltage test 1.2/50

according to the following standards:

- IEC 61109: 1995
- IEC 61952: 2002
- DIN VDE 0216: 1986



- 1 Fittings (example)
- 2 Insulating rod
- 3 Shield and rod sheathing

Design of silicone composite insulator

Composite insulator tongue/tube for insulating cantilevers

Type		8WL3088-2E
Weight	[kg]	2.0
Length	[mm]	346
For pin diameter	[mm]	21
For tube diameter*	[mm]	55
Specified cantilever load (SCL)	[kN]	6.0
Max. design cantilever load (MDCL)	[kN]	1.9
Specified tensile load (STL)	[kN]	60
Perm. operating load/tension	[kN]	10
Minimum creepage distance	[mm]	300

* others on request

Siemens AG
Infrastructure & Cities Sector
Smart Grid Division
Rail Electrification
Mozartstraße 33b
91052 Erlangen
Germany

electrification.mobility@siemens.com
www.siemens.com/rail-electrification

© Siemens AG 2012

Product Information / Version 1.0.4 / No. A6Z08110387953

The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. If not stated otherwise, we reserve the right to include modifications, especially regarding the stated values and dimensions.