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Elastic support up to 1.5 kV DC

Sicat 8WL4044 for overhead contact line systems in mass transit

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The elastic supports of product line Sicat® 8WL4044 are designed for providing an elastic suspension of fixed terminated or auto-tensioned overhead contact lines without catenary wire and are suitable for installation in low and narrow structures. They attenuate contact line oscillations that occur during the passage of pantographs. Thus they provide a good dynamic behaviour of the contact wire similar to that of a catenary suspension system.

Features

- Easy installation due to low weight, shallow profi le and simple fastening arrangement
- Exactly adjustabel working range
- Low-maintenance due to corrosion resistant materials
- Infinitely variable adjustment of the contact wire height and stagger
- Reduced contact wire wear and good dynamic behaviour of the contact line due to rubber-bonded-metal torsion element

Design

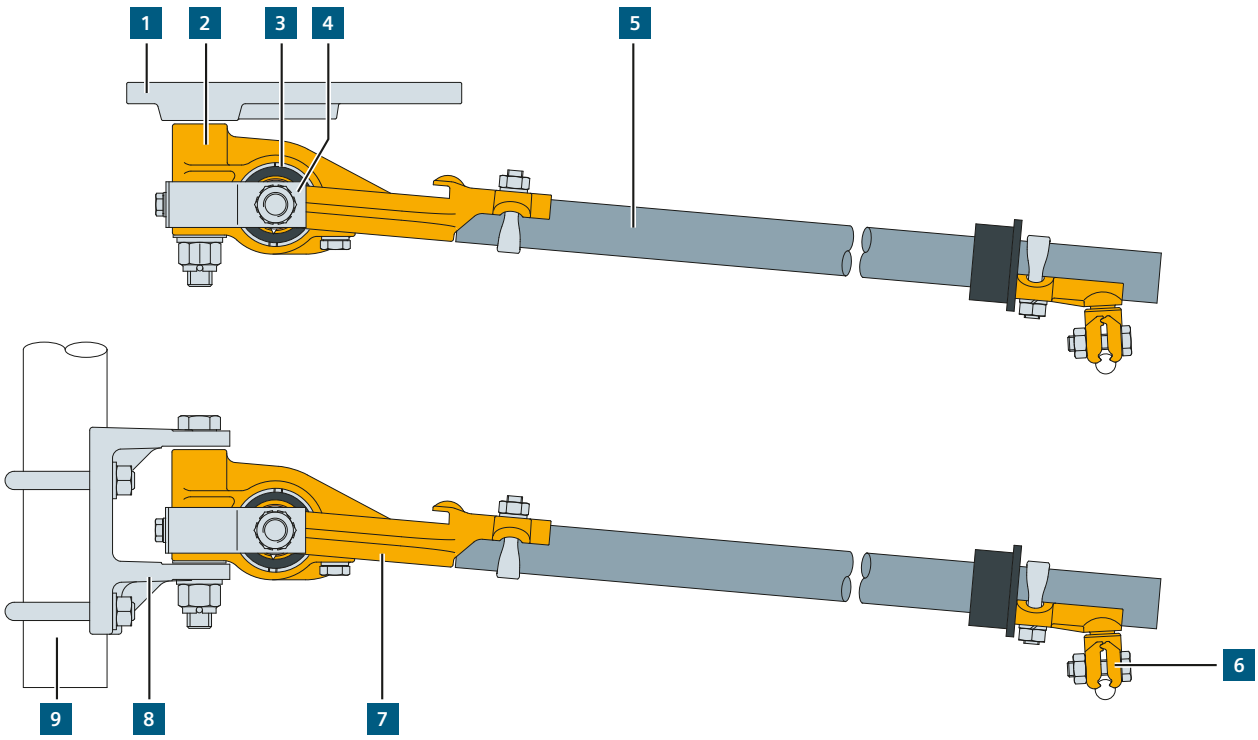
The steady arm with the contact wire clip is movable horizontally and vertically due to two jointed positions (in the articulation joint and in the torsion element).
Due to the laminar clamping of the torsion element into the articulation joint, an easy installation and a very precise adjustment is possible.

Tests
The elastic supports Sicat 8WL4044 are type tested acc. to DIN VDE 0216: 1986.

Variants

The following variants are available:
- Elastic support with baseplate for direct fastening onto support frame
- Elastic support with cantilever swivel bracket for fastening onto soffit post and support frame

Type		8WL4044-0A	8WL4044-1A	8WL4044-3A	8WL4044-4A
Variant – with baseplate – with cantilever swivel bracket		■	■	■	■
Length of steady arm	[mm]	800	1,000	800	1,000
Weight	[kg]	5.30	5.60	5.50	5.80
Minimum creepage distance	[mm]	550	750	550	750



1 Baseplate
2 Articulation joint
3 Torsion element
4 Torsion shackle
5 Steady arm
6 Contact wire clip
7 Shackle
8 Cantilever swivel bracket
9 Soffit post (not included in delivery)

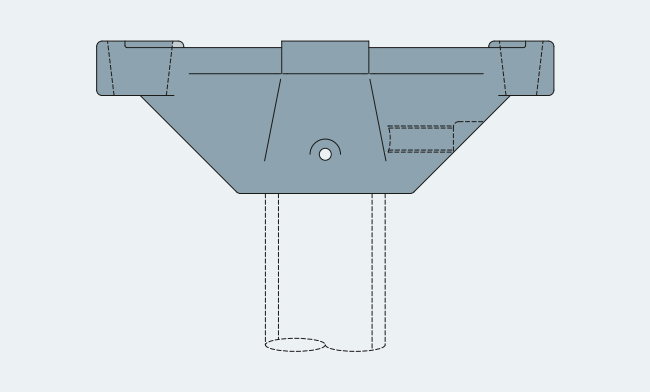
Design of elastic support Sicat 8WL4044 with baseplate (top) and with cantilever swivel bracket (bottom)

Fastening variants

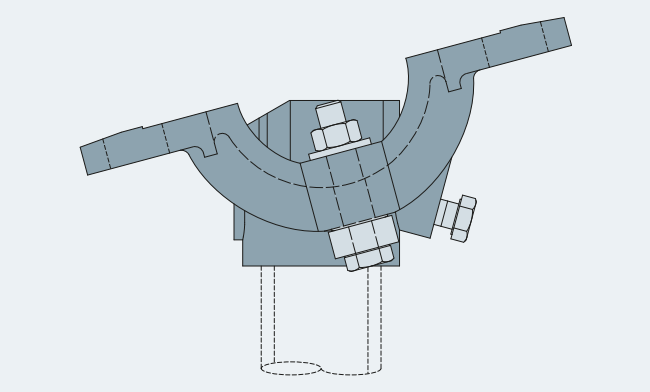
The elastic supports with cantilever swivel bracket can be fastened with different support frames:

Support frame 8WL4044-2
- No inclination adjustment
- Fastening directly onto plain ceiling or
- Fastening with hidden / embedded mounting bar onto ceiling (adapter plate 8WL3581-1 for mounting bar on surface of structure is required additionally)

Support frame 8WL3586-0
- Inclination adjustment steplessly up to 30°
- Fastening directly onto tilted ceiling or
- Fastening with hidden mounting bar onto tilted ceiling



Support frame Sicat 8WL4044-2



Support frame Sicat 8WL3586-0

Fastening parts		
Support frame for soffi t post		8WL4044-2
Support frame for soffi t post	Inclination adjustment up to 30°, installation dircetly onto structure	8WL3586-0
Soffit post	Tube 55x6 mm, please state length in order	8WL2167-0
Mounting bar	38x17 mm, length 2.180 mm	8WL8102-6
Adapter plate for installation on mounting bar		8WL3581-1

Function

The elastic, damped guidance of the contact wire is realized in the torsion element via balance of moments. When the pantograph passes the elastic support, the rubber-bonded metal bushing generates a counter-torque corresponding to the pantographs contact force.

The vehicle pantograph lifts the contact wire and thus the complete cantilever when passing. The resulting oscillations are absorbed by the elastic support and compensated until entire abating due to the harmonized interaction of torsion shackle and torsion element.

At a defect on the torsion element the limit stop on the upper side of the shackle prevents the sinking of the steady arm into the load gauge of a vehicle.

The variation of contact wire lengths due to temperature changes are absorbed by the horizontal movement of the elastic support.

Technical data

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Nominal voltage	[kV DC]	1.5
Maximum running speed (for tensioned contact line)	[km/h]	100
Maximum bending moment	[Nm]	100
Permissible operating load	[kN]	1,25
Installation height (with baseplate)	[mm]	140...180
Contact wire acc. to EN 50149*		AC-80 to 150

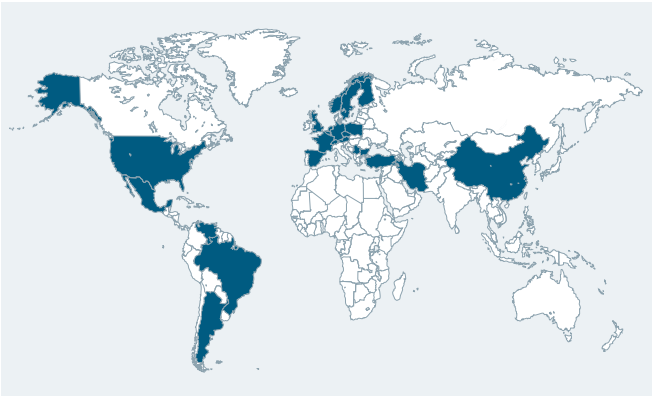
* others on request

Materials	
Articulation joint, clamp holder, contact wire clip, shackle	copper-aluminium alloy
Baseplate, cantilever swivel bracket	cast aluminium alloy
Torsion element	stainless steel, rubber
Torsion shackle	stainless steel
Steady arm	glass-fi ber reinforced plastic
Standard parts	stainless steel

Accessories	
Adjusting spanner	Sicat 8WL4061-0

References

Since the market introduction of the Sicat 8WL4044 type elastic supports in 1996 Siemens delivered in total more than 15,520 units worldwide (status as of September 2017).



Sicat 8WL4044 / Product information
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