



**SnowProtec Brushes**  
**Snow free switches**  
**for conventional**  
**and high speed tracks.**

The system has been developed in collaboration with Banverket (Swedish National Rail Administration) and is introduced as standard of Banverket.

**BVS**  
523.283

**OSBORN**  
INTERNATIONAL

High Performance

# Snow Protection System

## Simple, Economic, Effective & Improving Operational Safety

SnowProtec Brushes are simple yet extremely effective. The product consists of brushes assembled upwards and downwards on the outside of the support rail all along the switch tongue's movable part. The brushes provide a very effective protection against snow-drift and at the same time aids the retention of heat from the pre-warmed switch on the rail. The result is snow free switches, considerably simpler handling, more economic, and above all operation safe – both on conventional and high speed tracks.



- **A more effective solution**

Due to the unique patented technology, where the brushes keep off the snow and assist in the retention of heat, SnowProtec Brushes are the most effective snow protection in today's market.

- **Validated for speeds over 160 km/h**

SnowProtec Brushes are the first and only snow protection system that copes with the strains of high speed traffic.

- **No dismantling necessary**

SnowProtec Brushes can be left in position all year around and no disassembly is required during rail inspections or snow sweeping with brush machines.

- **Long life span and little maintenance**

The first test installations have been in place now for 5 hard winters and are still in fully functional order. The maintenance during this period has been minimal.

- **Easy to assemble**

It only takes approximately 2 hours to assemble the brushes on the switch tongue.

## Snow Protection with Brushes – the result of cooperation between OSBORN and Banverket (Swedish National Rail Administration)

During autumn 2002 a development project was initiated between OSBORN and Banverket (Swedish National Rail Administration) in Gävle. The purpose was to develop a snow protection system for railway switches that could cope with high speed traffic and minimize the problem of drifting snow over the switches. In close cooperation with Banverket, OSBORN designed a system based on robust lag brushes. The first test brushes were assembled in January 2003, and the original brushes are still in use! During these four years the design of

the strap mountings, joint mountings; bolts and washers; etc have been adjusted finely in order to give the best possible effect. The result has become a snow protection system that sets an entire new standard for simplicity, economy, and safety. SnowProtec Brushes meets the demands of operation and safety that Banverket requires and has thereby been introduced as standard of Banverket BVS 523.283.





### Report from the test locations:

**“The new snow protections have increased the operation safety and simplified the snow clearance”**

- I am positively surprised and very pleased, says Raimo Kajén, Track Engineer at Banverket in Gävle. I have been working and evaluating the Snow Protection system since the first test brushes were assembled in 2003.

- From the beginning I was certainly sceptical to the technology, but after reviewing the evaluation results taken over the last 3 years - I really can see the obvious benefits.

Raimo tells us that he has had earlier experience of snow protection with cover principal. These other systems are also to a degree effective in retaining the heat from the pre-warmed switch which helps to increase the rate of snow melt, but they are not particularly good at protecting against drifting snow. Indeed the problem actually becomes even worse with the sheets placed along the tracks. With SnowProtec Brushes the problems arising from drifting snow decrease substantially, resulting also in the reduced frequency of having to sweep the switches clear of snow.

- We have saved time and money, says Raimo. He also explains that the installation of the Snow Protec system has been completely straight forward. The brushes were



delivered in 3 metre sections that were easily assembled on site.

When the system is positioned in place there is absolutely no need to dismantle the brushes because of impending snow sweeping or track inspections. The brushes can be left in situ all year-around, and do not require servicing or general maintenance. Only occasionally might there be a need to check that brushes have not become loose.

The most important key issue is of course, operational safety, and Raimo can confirm that it has been considerably improved with SnowProtec Brushes.

- We have had fewer stoppages due switch problems where we have used filament brushes as snow protection.



The upward brushes efficiently protect against snow-drift and at the same time hold the heat from the pre-warmed switch on the rail – in this way increasing the snow melt.

The downward brushes flexibly seal around embankment and sleepers - which prevent the snow from blowing into the track.

# SnowProtec Brushes

## For all types of switches

The table presents a list of the different packages of 'snow protection' and which types of switches they match. Please contact OSBORN if you want to know more details about SnowProtec Brushes.

| Switch                       | Complete snow protection<br>Item No. | Included parts                        |  |  |                                |                                  |
|------------------------------|--------------------------------------|---------------------------------------|--|--|--------------------------------|----------------------------------|
|                              |                                      | Brushes (white)<br>Item No. 269720-35 | Brushes (black)<br>Item No. 269720-130 | Strap mounting (incl. scREW)<br>Item No. 00578 | End mounting<br>Item No. 00684 | Joint mounting<br>Item No. 00677 |
| EV-UIC60-300-1:9             | 59010                                | 8                                     | 8                                      | 24   | 4                              | ---                              |
| EV-UIC60-500-1:12            | 59015                                | 10                                    | 10                                     | 30   | 4                              | ---                              |
| EV-UIC60-760-1:15            | 59020                                | 12                                    | 12                                     | 36   | 4                              | ---                              |
| EV-UIC60-1200-1:1:18.5       | 59030                                | 14                                    | 14                                     | 42   | 4                              | ---                              |
| EVR-UIC60-2500-1:26.5/1:27.5 | 59035                                | 20                                    | 20                                     | 60   | 4                              | ---                              |
| EV-BV50-225/190-1:9          | 59070                                | 6                                     | 6                                      | 18   | 4                              | ---                              |
| EV-BV50-600-1:15             | 59075                                | 10                                    | 10                                     | 30   | 4                              | ---                              |
| EV-SJ50-11-1:9               | 59040                                | 6                                     | 6                                      | 18   | 4                              | ---                              |
| EV-SJ50-12-1:12/1:13/1:15    | 59050                                | 8                                     | 8                                      | 22   | 4                              | 2                                |
| EV-SJ50-20.667-1:18.5        | 59060                                | 14                                    | 14                                     | 40   | 4                              | 2                                |

OSBORN is an international operating company within the surface finishing field with a strong position within the market. OSBORN is part of the international group Jason Incorporated.

We develop, manufacture and merchandise quality brushes and machines for industrial use and can offer application solutions for a wide range of industries.

Continuous development and research work together with the customers and suppliers, and regular tests in our labora-

tory enables us to guarantee highest quality and safety in order to fulfill the requirements of the future.

We have a distinctive quality and technical know-how working with customers in tailored quality solutions.

Our technical service is focused strongly upon the customer's needs and expectations and as a consequence we welcome the opportunity to discuss your specific requirements in detail.

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