Dangerous snow overhangs: Making tunnel entrances safer for drivers

On February 1, 2014, there were snowdrifts and strong winds on the A13 in Rheinwald. In the late afternoon, a chunk of snow weighing approximately 10 kilograms broke off from the northern entrance of the San Bernardino Tunnel and struck a passing car. Although the impact caused heavy damage to the vehicle, the passengers walked away unscathed except for the fright they had received. The municipal works department for the canton of Grisons subsequently tasked the SLF with looking into how and on which tunnel entrances such snow overhangs form, and possible measures for avoiding accidents in the future.

Precautions for the five most dangerous entrances

That same winter, SLF experts looked into how great the danger of falling snow overhangs is for all 38 tunnel entrances on the A13 in Grisons.

“Snow overhangs form as a result either of wind, similar to snow cornices, or when snow settles,” explains Stefan Margreth, Head of the SLF Protective Measures research group.

“A vehicle on the A13 is likely to be struck by falling snow every 30 years on average.” Five of the tunnel entrances that were examined were found to be particularly dangerous. So the experts recommended in particular that access for staff be improved so the overhanging snow can be removed as part of normal winter services. The experts also proposed installing heating bands at particularly critical entrances and that a snow drift fence be erected on the roof of the northern San Bernardino entrance to prevent snow carried by the wind from piling up at the entrance. The hope is that these measures, which were implemented in summer 2014, will prevent further accidents.

(mhe)

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Snow can slide onto the road from steep surfaces over tunnel entrances, as shown here at Lukmanier Pass.

A chunk of snow that fell from the northern entrance of the San Bernardino Tunnel caused extensive damage to this vehicle.