



# TECHNICAL BULLETIN 129

## Subject: **Snow Removal Guide Line for Expansion Joints on Parking Structures**

Architects, Engineers and parking structure owners often ask the question – how do I protect my structure from snow removal damage? How do I instruct the snow removal contractor in order to protect the expansion joint and deck membrane from snow plow damage?

The simple answer is this. Snow plow blades **should not come in direct contact** with expansion joints, deck membranes, or joint sealants. Surface mounted expansion joint covers require additional precautions.

### **Snow Removal Guidelines**

The following guidelines should be followed during the snow removal process on a parking structure.

1. Snow plow blades and small frontend loaders (bobcat / skid-steer) should not come in direct contact with expansion joints, deck membranes, or joint sealants. Snow melting equipment requires its own guideline – contact equipment manufacturer.
2. BEST PRACTICE - whenever possible, remove snow from the expansion joints either by sweeping, shoveling or snow-blowing. This is the only method allowed for surface mounted expansion joint covers.
3. Plows should be fitted with plow shoes or casters adjusted to keep plow blades a minimum of 1/2-inch above these sensitive materials. Blades should also not impact vertical offsets between adjacent deck surfaces.
4. If snow plows are to be used, the blades must be equipped with well-maintained rubber tips to minimize impact damage to the expansion joints, deck membranes, and joint sealants.
5. It is recommended that the location of the joints be clearly marked, and the plow drivers instructed to lift their plows slightly when crossing the expansion joints.
6. Reduce snow plow driving speeds at changes in floor slopes, such as the ends of ramps, concrete washes (i.e., raised areas of the deck surface), at the ends of double tees, and at handicapped ramps.
7. Never plow with the length of the blade parallel to the expansion joint. Either plow down the length of the joint with the length of the blade perpendicular to the joint or plow across the joint with the blade at an oblique angle to the expansion joint.
8. If possible, it is wise for owners to include in snow plowing contracts that the snow plowing contractor is responsible for any damage to the expansion joint caused by plowing not in accordance with the recommendations herein and for any expenses that may be incurred in repairs as a result of voiding the expansion joint warranty.

In conclusion, the choice between low-cost snow removal or annual deck and expansion joint repair should be a factor when preparing the structure's annual maintenance program. Your success may ultimately have much more to do with your choice of snow removal contractors that acknowledge and are willing to follow these guidelines.

**This bulletin contains guidelines shared by the Maintenance Manual for Precast Parking Structures, Precast Prestressed Concrete Institute, National Parking Association and the Snow and Ice Management Association.**