## Installation procedure

# **SINGLE** CELL JOINTS

1. Expansion joint assemblies are supplied preassembled with a “J” gap width, as shown on the shop drawings, which corresponds to a temperature of 15 °C.

2. It is important that the “J” gap width of the joint assembly be adjusted according to the ambient temperature. In the case of a concrete bridge structure, ambient temperature is determined based on the mean shade air temperature over the previous 48 hours; for steel bridge structures, ambient temperature is based on the mean shade air temperature over the previous 24 hours.

3. Clean the area where the joint assembly will be installed using compressed air to remove any accumulated debris.

4. Descend the joint assembly into position and bend back any rebars that may be in the way. In the case of a new bridge, we recommend that rebars be positioned in order to avoid any obstructions.

5. Position the joint assembly to ensure that the vertical portion of the sidewalk or parapet is recessed by approximately 15 mm in order to protect the joint assembly from snowplow blades.

6. Adjust the elevation of the joint assembly so that it is flush with the roadway surface. The joint assembly must be installed at the same level as the wearing surface.

7. If the joint assembly has been supplied in several sections, make sure that the sections are well aligned, both vertically and horizontally. Perform a seal weld on the bolted connection, as shown on the connection detail in the shop drawings. The weld must overlap into the interior of the head of the joint steel retainer, and the surface on which the strip seal will rest must be ground smooth to assure water tightness.

8. Secure the joint assembly in place by welding it to the rebars that protrude into the blockout. The joint assembly must be secured on both sides every 600 mm centre-to-centre (c/c). In the case of a bridge rehabilitation project, if the existing rebars are not in good condition, holes with a minimum depth of 150 mm must be drilled in the concrete every 600 mm centre-to-centre (c/c), in order to insert 20M dowels. The dowels must be secured in place using high strength grout or an injectable chemical anchor product such as Hilti HIT-HY 200 or equivalent

9. Install the additional rebars as shown on the contract drawings, when required.

10. Install the formwork in the blockout that will create the joint opening.

11. Cover the top of the joint assembly using 6 mm plywood panels placed side by side to prevent concrete from filling the joint gap.

12. The temporary assembly devices must be removed before the joint assembly is cast in concrete.

13. Fill the blockout with the specified concrete. The concrete vibration must be performed carefully to eliminate all voids at the numerous steel/concrete interfaces as well as underneath angles and/or HSS tubes.

14. Screed the concrete with a rough finish at slab level or flush with the snowplow blade protection plates.