Index 21110 Poured Joint with Backer Rod Expansion Joint System

Design Criteria

AASHTO LRFD Bridge Design Specifications, 6th Edition; ***Structures Design Guidelines (SDG)***

Design Assumptions and Limitations

Use Index 21110 in accordance with the requirements of ***SDG*** 6.4.

Allow for a minimum (fully closed) opening of 50% of Dimension "A" and a maximum opening of 3" (measured in the direction of travel).

Plan Content Requirements

Show Poured Joint with Backer Rod Expansion Joints on Superstructure and Approach Slab detail sheets and other sheets as required. Show Sidewalk Cover Plates at all expansion joint locations along sidewalks. Include cross references to ***Design Standards*** Index 21110.

Complete the following "Poured Expansion Joint Data Table Index No. 21110" using the instructions provided and include the table in the plans. See Introduction I.3 for more information regarding use of Data Tables.

Instructions:

1. Total Design Movement shall be the factored movement.
2. Dimension "A" (measured perpendicular to the joint) @ 70°F is normally set at 2 inches for a total design movement up to 2 inches for non-skewed joints. The designer may reduce Dimension "A" when necessary to account for skews or smaller design movement with the following considerations:
    a. The design joint opening (Dimension "A") should not be less than twice the joint contraction;
    b. The minimum joint opening in the Direction of Movement is ½ inch for the factored movement;
    c. The maximum joint opening in the Direction of Travel is 3 inches for the factored movement;
    d. The minimum joint opening recommended by manufacturers at the time of installation is 1 inch.
3. Dimension "A" adjustments for 10°F shall be based on the unfactored movements.
4. See Instructions for Index 21100 (Figures 1 through 4) for determining the Direction of Movement.

POURED EXPANSION JOINT DATA TABLE INDEX NO. 21110			Table Date 1-01-09
LOCATION	DIM. "A" @ 70°F	TOTAL DESIGN MOVEMENT	DIM. "A" ADJUSTMENT PER 10°F

NOTE:
Dim. "A" adjustment per 10°F shown is measured perpendicular to ℄ Expansion Joint. Work this table with Design Standards Index No. 21110.

Payment

Item number	Item description	Unit Measure
458-1-AB	Bridge Deck Expansion Joint	LF