



AASHTO RIGID PAVEMENT DESIGN METHOD (JOINTS)

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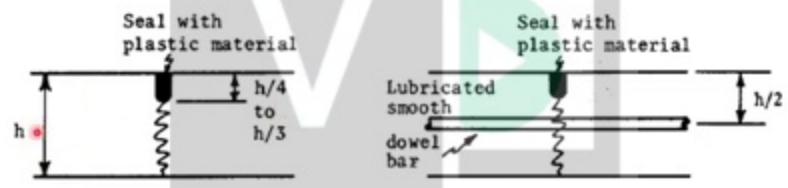
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- Contraction
 - Transverse
 - For relief of tensile stresses
- Expansion
 - Transverse
 - For relief of compressive stresses
 - Used primarily between pavement and structures (e.g., bridge)
- Construction
- Longitudinal
 - For relief of curling and warping stresses



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Typical Contraction Joint Details



(a) Dummy Groove

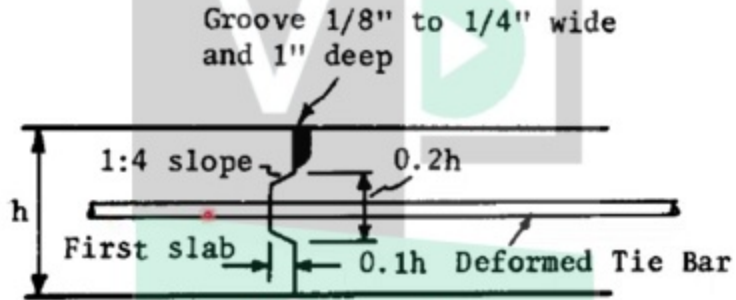
(b) Premolded Strip

(Huang, 1993)



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Typical Longitudinal Joint Detail



Lane-at-a-Time Construction

(Huang, 1993)



Vizie SEALING JOINTS

Before sealing, the joint is required to be clean of all foreign materials. This is done by water blasting, sand blasting, mechanical wire brushing, or a combination thereof. Care is taken not to damage the joint when cleaning. All residue of the sawing operation is required to be removed from the joint face for proper sealant adhesion. A quick test for cleanliness may be made by inserting a small clean object into the joint. If residue or dust is retained on the object, additional cleaning is required. Once the joint has been thoroughly cleaned, the backer rod may be installed, if required, and the sealer may be placed.

- All joints are to be sealed prior to discontinuing work for the construction season or before opening the pavement to public traffic. Construction traffic may be allowed upon the pavement prior to this sealing process.



Vizle Dowel Bars: Transverse Joint Load Transfer

- “...size and spacing should be determined by the local agency’s procedures and/or experience.”
- Guidelines:
 - Dowel bar diameter = $D/8$ (inches)
 - Dowel spacing: 12 inches
 - Dowel length: 18 inches

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Steel Working Stress

Table 3.7. Allowable Steel Working Stress,
ksi

Indirect Tensile Strength of Concrete at 28 days, psi	Reinforcing Bar Size*		
	No. 4	No. 5	No. 6
300 (or less)	65	57	54
400	67	60	55
500	67	61	56
600	67	63	58
700	67	65	59
800 (or greater)	67	67	60

*For DWF proportional adjustments may be made using the wire diameter to bar diameter.

Based on preventing fracture and limiting permanent deformation.

(AASHTO, 1993)



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