



$$\begin{aligned}
 M_{TOT} &= \Delta_T \times L \times \alpha \times 12 \\
 J_{45} &= 1'' + ((T_{MAX} - 45^\circ) / \Delta_T) \times M_{TOT} \times \sin \theta \\
 J_{60} &= 1'' + ((T_{MAX} - 60^\circ) / \Delta_T) \times M_{TOT} \times \sin \theta \\
 J_{90} &= 1'' + ((T_{MAX} - 90^\circ) / \Delta_T) \times M_{TOT} \times \sin \theta
 \end{aligned}$$

SEE FIGURE 6-43 FOR COEFFICIENT OF THERMAL EXPANSION (α) AND TEMPERATURE VALUES.

BENT 1

$$\begin{aligned}
 \text{TOTAL MOVEMENT} = M_{TOT} &= (100^\circ) (170' + 150') (6.5 \times 10^{-6} / ^\circ\text{F}) (12) \\
 \text{(ALONG } \underline{C} \text{ RDWY)} &= 2.496'' \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 45^\circ) / (100^\circ)) (2.496'') \sin 65^\circ \\
 \text{OPENING ,J, AT } 45^\circ \text{ F} &= 2.470'' = 2\frac{1}{2}'' \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 60^\circ) / (100^\circ)) (2.496'') \sin 65^\circ \\
 \text{OPENING ,J, AT } 60^\circ \text{ F} &= 2.131'' = 2\frac{1}{8}'' \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 90^\circ) / (100^\circ)) (2.496'') \sin 65^\circ \\
 \text{OPENING ,J, AT } 90^\circ \text{ F} &= 1.452'' = 1\frac{7}{16}''
 \end{aligned}$$

BENT 2

$$\begin{aligned}
 \text{TOTAL MOVEMENT} = M_{TOT} &= (100^\circ) (60') (6.5 \times 10^{-6} / ^\circ\text{F}) (12) \\
 \text{(ALONG } \underline{C} \text{ RDWY)} &= 0.468'' \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 45^\circ) / (100^\circ)) (.468'') \sin 60^\circ \\
 \text{OPENING ,J, AT } 45^\circ \text{ F} &= 1.263'' = 1\frac{1}{4}'' \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 60^\circ) / (100^\circ)) (.468'') \sin 60^\circ \\
 \text{OPENING ,J, AT } 60^\circ \text{ F} &= 1.203'' = 1\frac{3}{16}'' ** \\
 \text{PERPENDICULAR JOINT} &= 1'' + ((110^\circ - 90^\circ) / (100^\circ)) (.468'') \sin 60^\circ \\
 \text{OPENING ,J, AT } 90^\circ \text{ F} &= 1.081'' = 1\frac{1}{16}''
 \end{aligned}$$

** NOTE TO DESIGNER:
 MAINTAIN A 2" MINIMUM JOINT OPENING NORMAL
 TO THE CENTERLINE OF JOINT AT THE 60°F
 SETTING TO ENSURE THE GLAND CAN BE INSTALLED.
 ADJUST OTHER SETTING DIMENSIONS ACCORDINGLY.

MOVEMENT AND SETTING AT JOINT								
LOCATION	SKEW ANGLE	TOTAL MOVEMENT (ALONG \underline{C} RDWY)	DIMENSION "A"			DIMENSION "B"		
			PERP. JT. OPENING AT 45° F	PERP. JT. OPENING AT 60° F	PERP. JT. OPENING AT 90° F	PERP. JT. OPENING AT 45° F	PERP. JT. OPENING AT 60° F	PERP. JT. OPENING AT 90° F
BENT 1	65°-00'-00"	2½"	2½"	2⅛"	1⅞"	3"	2⅝"	1⅝"
BENT 2	60°-00'-00"	⅞"	2⅞"	2"	1⅞"	2⅞"	2½"	2⅜"

STRIP SEAL EXPANSION JOINT EXAMPLE

STEEL BEAM SHOWN (CONCRETE BEAM SIM.)

FIGURE 6 - 139