

Technical Data

Crane Runway Rail Tolerances

(Notes taken from CMAA 70, ref Table 1.4.2.1)

CMAA 70 Table 1.4.2.1			
ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
Crane Span (L)		$L \leq 50'$ [15240mm] $A = 3/16''$ [4.8mm] $50' < L \leq 100'$ [30480mm] $A = 1/4''$ [6.4mm] $L > 100'$ [30480mm] $A = 3/8''$ [9.5mm]	$1/4''$ per $20'-0''$ [6.4mm] per [6096mm]
Straightness (B)		$B = 3/8''$ [9.5mm]	$1/4''$ per $20'-0''$ [6.4mm] per [6096mm]
Elevation (C)		$C = 3/8''$ [9.5mm]	$1/4''$ per $20'-0''$ [6.4mm] per [6096mm]
Rail-to-Rail Elevation (D)		$L \leq 50'$ [15240mm] $D = \pm 3/16''$ [4.8mm] $50' < L \leq 100'$ [30480mm] $D = \pm 1/4''$ [6.4mm] $L > 100'$ [30480mm] $D = \pm 3/8''$ [9.5mm]	$1/4''$ per $20'-0''$ [6.4mm] per [6096mm]

General Notes:

1.4.2 Rails shall be straight, parallel, level, at the same elevation and at the specified centre to centre distance, within the tolerances given in table 1.4.2-1.

1.4.6 The crane runway shall be designed with sufficient strength and rigidity to prevent detrimental lateral or vertical deflection. The lateral deflection should not exceed $L_r/400$ based on 10% of max. wheel load(s) without VIF (Vertical Inertia Forces).

The vertical deflection should not exceed $L_r/600$ based on max. wheel load(s) without VIF. Gantry and other types of special cranes may require additional considerations.

L_r = Runway girder span being evaluated.

In the case of cantilevered runway beams, L_r is defined as the distance from the last support to the farthest wheel. The end slope of cantilevers should be calculated and considered in horsepower and wheel traction calculations.