

CODE

COMMENTARY

Table 8.7.7.1.2—Shear stud location and spacing limits

Direction of measurement	Description of measurement	Condition		Maximum distance or spacing, mm
Perpendicular to column face	Distance from column face to first peripheral line of shear studs	All		$d/2$
	Constant spacing between peripheral lines of shear studs	Nonprestressed slab with	$v_u \leq 0.5\phi\sqrt{f'_c}$	$3d/4$
		Nonprestressed slab with	$v_u > 0.5\phi\sqrt{f'_c}$	$d/2$
		Prestressed slabs conforming to 22.6.5.4		$3d/4$
Parallel to column face	Spacing between adjacent shear studs on peripheral line nearest to column face	All		$2d$

8.8—Nonprestressed two-way joist systems

8.8.1 General

8.8.1.1 Nonprestressed two-way joist construction consists of a monolithic combination of regularly spaced ribs and a top slab designed to span in two orthogonal directions.

8.8.1.2 Width of ribs shall be at least 100 mm at any location along the depth.

8.8.1.3 Overall depth of ribs shall not exceed 3.5 times the minimum width.

8.8.1.4 Clear spacing between ribs shall not exceed 750 mm.

8.8.1.5 V_c shall be permitted to be taken as 1.1 times the values calculated in 22.5.

8.8.1.6 For structural integrity, at least one bottom bar in each joist shall be continuous and shall be anchored to develop f_y at the face of supports.

8.8.1.7 Reinforcement area perpendicular to the ribs shall satisfy slab moment strength requirements, considering load concentrations, and shall be at least the shrinkage and temperature reinforcement area in accordance with 24.4.

R8.8—Nonprestressed two-way joist systems

R8.8.1 General

The empirical limits established for nonprestressed reinforced concrete joist floors are based on successful past performance of joist construction using standard joist forming systems. For prestressed joist construction, this section may be used as a guide.

R8.8.1.4 A limit on the maximum spacing of ribs is required because of the provisions permitting higher shear strengths and less concrete cover for the reinforcement for these relatively small, repetitive members.

R8.8.1.5 The increase in shear strength is justified on the basis of: 1) satisfactory performance of joist construction designed with higher calculated shear strength specified in previous Codes, which allowed comparable shear stresses; and 2) potential for redistribution of local overloads to adjacent joists.