

**Distribution of Houses by Predominant Materials of Roof and Wall
and Level of Damage Risk**

Table No. : JD 03

State : JHARKHAND

KODARMA

Wall / Roof		Census Houses		Level of Risk under									Flood Prone Area in %
		No. of Houses	%	EQ Zone				Wind Velocity m/s					
				V	IV	III	II	55 & 50	47	44 & 39	33		
				Area in %				Area in %					
				.3	99.7					100			
WALL													
A1 - Mud & Unburnt Brick Wall	Rural	54,053	38.0										
	Urban	6,044	4.2										
	Total	60,097	42.2			<i>H</i>	<i>M</i>				<i>M</i>		
A2 - Stone Wall not packed with mortar	Rural	679	0.5										
	Urban	153	0.1										
	Total	832	0.6			<i>H</i>	<i>M</i>				<i>L</i>		
Total - Category - A		60,929	42.8										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	53,918	37.9										
	Urban	24,521	17.2										
	Total	78,439	55.1			<i>M</i>	<i>L</i>				<i>L</i>		
Total - Category - B		78,439	55.1										
C1 - Concrete Wall	Rural	659	0.5										
	Urban	411	0.3										
	Total	1,070	0.8			<i>L</i>	<i>VL</i>				<i>VL</i>		
C2 - Wood wall	Rural	184	0.1										
	Urban	69	-										
	Total	253	0.1			<i>L</i>	<i>VL</i>				<i>M</i>		
Total - Category - C		1,323	0.9										
X - Other Materials	Rural	1,446	1.0										
	Urban	195	0.1										
	Total	1,641	1.1			<i>VL</i>	<i>VL</i>				<i>M</i>		
Total - Category - X		1,641	1.2										
TOTAL HOUSES*		142,332											

ROOF														
R1 - Light Weight Sloping Roof	Rural	10,566	7.4											
	Urban	3,131	2.2											
	Total	13,697	9.6			<i>M</i>	<i>L</i>				<i>H</i>			
R2 - Heavy Weight Sloping Roof	Rural	52,239	36.7											
	Urban	6,729	4.7											
	Total	58,968	41.4			<i>M</i>	<i>L</i>				<i>L</i>			
R3 - Flat Roof	Rural	48,134	33.8											
	Urban	21,533	15.1											
	Total	69,667	48.9			Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		142,332												

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 582 mm

Housing Category : Wall Types

Category - A : Buildings in field-stone, rural structures, unburnt brick houses, clay houses

Category - B : Ordinary brick building; buildings of the large block & prefabricated type, half-timbered structures, building in natural hewn stone

Category - C : Reinforced building, well built wooden structures

Category - X : Other materials not covered in A,B,C. These are generally light.

Notes: 1. Flood prone area includes that protected area which may have more severe damage under failure of protection works. In some other areas the local damage may be severe under heavy rains and choked drainage.

2. Damage Risk for wall types is indicated assuming heavy flat roof in categories A, B and C (Reinforced Concrete) building

3. Source of Housing Data : Census of Housing, GOI, 2011

Housing Category : Roof Type

Category - R1 - Light Weight (Grass, Thatch, Bamboo, Wood, Mud, Plastic, Polythene,

GI Metal, Asbestos Sheets, Other Materials)

Category - R2 - Heavy Weight (Tiles, Stone/Slate)

Category - R3 - Flat Roof (Brick, Concrete)

EQ Zone V : Very High Damage Risk Zone (MSK > IX)

EQ Zone IV : High Damage Risk Zone (MSK VIII)

EQ Zone III : Moderate Damage Risk Zone (MSK VII)

EQ Zone II : Low Damage Risk Zone (MSK < VI)

Level of Risk : VH = Very High; H = High;

M = Moderate; L = Low; VL = Very Low

* Total No.of Houses excluding Vacant/Locked Houses