

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

Table No. : JD 21

State : JHARKHAND

GUMLA

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 %				100	100				
WALL																	
A1 - Mud & Unburnt Brick Wall	Rural	181,712	83.0														
	Urban	4,500	2.1														
	Total	186,212	85.1						<i>L</i>				<i>M</i>				
A2 - Stone Wall not packed with mortar	Rural	1,886	0.9														
	Urban	116	0.1														
	Total	2,002	1.0						<i>L</i>				<i>L</i>				
Total - Category - A		188,214	85.9														
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	18,839	8.6														
	Urban	9,860	4.5														
	Total	28,699	13.1						<i>VL</i>				<i>L</i>				
Total - Category - B		28,699	13.1														
C1 - Concrete Wall	Rural	258	0.1														
	Urban	112	0.1														
	Total	370	0.2						<i>VL</i>				<i>VL</i>				
C2 - Wood wall	Rural	171	0.1														
	Urban	18	-														
	Total	189	0.1						<i>VL</i>				<i>M</i>				
Total - Category - C		559	0.3														
X - Other Materials	Rural	1,486	0.7														
	Urban	102	-														
	Total	1,588	0.7						<i>VL</i>				<i>M</i>				
Total - Category - X		1,588	0.7														
TOTAL HOUSES*		219,060															

ROOF														
R1 - Light Weight Sloping Roof	Rural	24,504	11.2											
	Urban	4,926	2.2											
	Total	29,430	13.4						<i>VL</i>				<i>H</i>	
R2 - Heavy Weight Sloping Roof	Rural	170,652	77.9											
	Urban	4,296	2.0											
	Total	174,948	79.9						<i>VL</i>				<i>L</i>	
R3 - Flat Roof	Rural	9,196	4.2											
	Urban	5,486	2.5											
	Total	14,682	6.7						<i>Damage Risk as per that for the Wall supporting it</i>					
TOTAL HOUSES*		219,060												

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 631 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