

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

Table No. : MP 02

State : MADHYA PRADESH

MORENA

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 %					
WALL								100		100			
A1 - Mud & Unburnt Brick Wall	Rural	52,032	12.9										
	Urban	4,223	1.1										
	Total	56,255	14.0					<i>L</i>		<i>H</i>			
A2 - Stone Wall not packed with mortar	Rural	19,403	4.8										
	Urban	1,509	0.4										
	Total	20,912	5.2					<i>L</i>		<i>M</i>			
Total - Category - A		77,167	19.2										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	229,498	57.1										
	Urban	81,538	20.3										
	Total	311,036	77.4					<i>VL</i>		<i>M</i>			
Total - Category - B		311,036	77.4										
C1 - Concrete Wall	Rural	299	0.1										
	Urban	217	0.1										
	Total	516	0.2					<i>VL</i>		<i>VL</i>			
C2 - Wood wall	Rural	1,029	0.3										
	Urban	152	-										
	Total	1,181	0.3					<i>VL</i>		<i>H</i>			
Total - Category - C		1,697	0.4										
X - Other Materials	Rural	10,440	2.6										
	Urban	1,705	0.4										
	Total	12,145	3.0					<i>VL</i>		<i>H</i>			
Total - Category - X		12,145	3.0										
TOTAL HOUSES*		402,045											

ROOF													
R1 - Light Weight Sloping Roof	Rural	46,998	11.7										
	Urban	4,669	1.2										
	Total	51,667	12.9					<i>VL</i>		<i>VH</i>			
R2 - Heavy Weight Sloping Roof	Rural	246,194	61.2										
	Urban	64,295	16.0										
	Total	310,489	77.2					<i>VL</i>		<i>M</i>			
R3 - Flat Roof	Rural	19,509	4.9										
	Urban	20,380	5.1										
	Total	39,889	10.0	Damage Risk as per that for the Wall supporting it									
TOTAL HOUSES*		402,045											

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 711 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