

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

Table No. : MP 17

State : MADHYA PRADESH

RATLAM

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		81.4	18.6		
A1 - Mud & Unburnt Brick Wall	Rural	152,915	43.6										
	Urban	17,814	5.1										
	Total	170,729	48.7					<i>L</i>		<i>H</i>	<i>M</i>		
A2 - Stone Wall not packed with mortar	Rural	3,257	0.9										
	Urban	1,025	0.3										
	Total	4,282	1.2					<i>L</i>		<i>M</i>	<i>L</i>		
Total - Category - A		175,011	49.8										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	84,363	24.0										
	Urban	72,650	20.7										
	Total	157,013	44.7					<i>VL</i>		<i>M</i>	<i>L</i>		
Total - Category - B		157,013	44.7										
C1 - Concrete Wall	Rural	1,164	0.3										
	Urban	3,529	1.0										
	Total	4,693	1.3					<i>VL</i>		<i>VL</i>	<i>VL</i>		
C2 - Wood wall	Rural	874	0.2										
	Urban	189	0.1										
	Total	1,063	0.3					<i>VL</i>		<i>H</i>	<i>M</i>		
Total - Category - C		5,756	1.6										
X - Other Materials	Rural	11,390	3.2										
	Urban	1,951	0.6										
	Total	13,341	3.8					<i>VL</i>		<i>H</i>	<i>M</i>		
Total - Category - X		13,341	3.8										
TOTAL HOUSES*		351,121											

ROOF													
R1 - Light Weight Sloping Roof	Rural	79,486	22.6										
	Urban	28,797	8.2										
	Total	108,283	30.8					<i>VL</i>		<i>VH</i>	<i>H</i>		
R2 - Heavy Weight Sloping Roof	Rural	151,630	43.2										
	Urban	26,046	7.4										
	Total	177,676	50.6					<i>VL</i>		<i>M</i>	<i>L</i>		
R3 - Flat Roof	Rural	22,847	6.5										
	Urban	42,315	12.1										
	Total	65,162	18.6	Damage Risk as per that for the Wall supporting it									
TOTAL HOUSES*		351,121											

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 457 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