

**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 %					
<b>WALL</b>								100		81.4	18.6		
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	152,915	43.6										
	Urban	17,814	5.1										
	<b>Total</b>	<b>170,729</b>	<b>48.7</b>					<i>L</i>		<i>H</i>	<i>M</i>		
<b>A2 - Stone Wall not packed with mortar</b>	Rural	3,257	0.9										
	Urban	1,025	0.3										
	<b>Total</b>	<b>4,282</b>	<b>1.2</b>					<i>L</i>		<i>M</i>	<i>L</i>		
<b>Total - Category - A</b>		<b>175,011</b>	<b>49.8</b>										
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	84,363	24.0										
	Urban	72,650	20.7										
	<b>Total</b>	<b>157,013</b>	<b>44.7</b>					<i>VL</i>		<i>M</i>	<i>L</i>		
<b>Total - Category - B</b>		<b>157,013</b>	<b>44.7</b>										
<b>C1 - Concrete Wall</b>	Rural	1,164	0.3										
	Urban	3,529	1.0										
	<b>Total</b>	<b>4,693</b>	<b>1.3</b>					<i>VL</i>		<i>VL</i>	<i>VL</i>		
<b>C2 - Wood wall</b>	Rural	874	0.2										
	Urban	189	0.1										
	<b>Total</b>	<b>1,063</b>	<b>0.3</b>					<i>VL</i>		<i>H</i>	<i>M</i>		
<b>Total - Category - C</b>		<b>5,756</b>	<b>1.6</b>										
<b>X - Other Materials</b>	Rural	11,390	3.2										
	Urban	1,951	0.6										
	<b>Total</b>	<b>13,341</b>	<b>3.8</b>					<i>VL</i>		<i>H</i>	<i>M</i>		
<b>Total - Category - X</b>		<b>13,341</b>	<b>3.8</b>										
<b>TOTAL HOUSES*</b>		<b>351,121</b>											

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

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