

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

**Table No. : MP 21**

**State : MADHYA PRADESH**

**DHAR**

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>													
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	183,591	37.8										
	Urban	17,175	3.5										
	<b>Total</b>	<b>200,766</b>	<b>41.3</b>					<i>M</i>	<i>L</i>		<i>H</i>	<i>M</i>	
<b>A2 - Stone Wall not packed with mortar</b>	Rural	7,939	1.6										
	Urban	880	0.2										
	<b>Total</b>	<b>8,819</b>	<b>1.8</b>					<i>M</i>	<i>L</i>		<i>M</i>	<i>L</i>	
<b>Total - Category - A</b>		<b>209,585</b>	<b>43.2</b>										
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	160,364	33.0										
	Urban	67,886	14.0										
	<b>Total</b>	<b>228,250</b>	<b>47.0</b>					<i>L</i>	<i>VL</i>		<i>M</i>	<i>L</i>	
<b>Total - Category - B</b>		<b>228,250</b>	<b>47.0</b>										
<b>C1 - Concrete Wall</b>	Rural	3,173	0.7										
	Urban	4,356	0.9										
	<b>Total</b>	<b>7,529</b>	<b>1.6</b>					<i>VL</i>	<i>VL</i>		<i>VL</i>	<i>VL</i>	
<b>C2 - Wood wall</b>	Rural	13,886	2.9										
	Urban	158	-										
	<b>Total</b>	<b>14,044</b>	<b>2.9</b>					<i>VL</i>	<i>VL</i>		<i>H</i>	<i>M</i>	
<b>Total - Category - C</b>		<b>21,573</b>	<b>4.4</b>										
<b>X - Other Materials</b>	Rural	22,697	4.7										
	Urban	3,347	0.7										
	<b>Total</b>	<b>26,044</b>	<b>5.4</b>					<i>VL</i>	<i>VL</i>		<i>H</i>	<i>M</i>	
<b>Total - Category - X</b>		<b>26,044</b>	<b>5.4</b>										
<b>TOTAL HOUSES*</b>		<b>485,452</b>											

ROOF													
<b>R1 - Light Weight Sloping Roof</b>	Rural	158,565	32.7										
	Urban	34,910	7.2										
	<b>Total</b>	<b>193,475</b>	<b>39.9</b>					<i>L</i>	<i>VL</i>		<i>VH</i>	<i>H</i>	
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	181,273	37.3										
	Urban	9,449	1.9										
	<b>Total</b>	<b>190,722</b>	<b>39.2</b>					<i>L</i>	<i>VL</i>		<i>M</i>	<i>L</i>	
<b>R3 - Flat Roof</b>	Rural	51,812	10.7										
	Urban	49,443	10.2										
	<b>Total</b>	<b>101,255</b>	<b>20.9</b>	<i>Damage Risk as per that for the Wall supporting it</i>									
<b>TOTAL HOUSES*</b>		<b>485,452</b>											

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 511 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