

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

**Table No. : MP 30**

**State : MADHYA PRADESH**

**BETUL**

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	190,621	50.2									
	Urban	20,440	5.4									
	Total	211,061	55.6			M				M		
A2 - Stone Wall not packed with mortar	Rural	2,540	0.7									
	Urban	331	0.1									
	Total	2,871	0.8			M				L		
Total - Category - A		213,932	56.3									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	78,003	20.5									
	Urban	52,933	13.9									
	Total	130,936	34.4			L				L		
Total - Category - B		130,936	34.5									
C1 - Concrete Wall	Rural	2,128	0.6									
	Urban	1,321	0.3									
	Total	3,449	0.9			VL				VL		
C2 - Wood wall	Rural	4,188	1.1									
	Urban	218	0.1									
	Total	4,406	1.2			VL				M		
Total - Category - C		7,855	2.1									
X - Other Materials	Rural	24,057	6.3									
	Urban	3,095	0.8									
	Total	27,152	7.1			VL				M		
Total - Category - X		27,152	7.1									
TOTAL HOUSES*		379,875										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	35,899	9.5									
	Urban	17,807	4.7									
	<b>Total</b>	<b>53,706</b>	<b>14.2</b>			L				H		
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	235,326	61.9									
	Urban	24,157	6.4									
	<b>Total</b>	<b>259,483</b>	<b>68.3</b>			L				L		
<b>R3 - Flat Roof</b>	Rural	30,312	8.0									
	Urban	36,374	9.6									
	<b>Total</b>	<b>66,686</b>	<b>17.6</b>	<i>Damage Risk as per that for the Wall supporting it</i>								
<b>TOTAL HOUSES*</b>		<b>379,875</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **491 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