

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

## MANIPUR

Wall / Roof		Census Houses		Level of Risk under							
		No. of Houses	%	EQ Zone				Wind Velocity m/s			
				V	IV	III	II	55 & 50	47	44 & 39	33
				Area in %				Area in %			
<b>STATE - MANIPUR</b>				100				34.0		66.0	
<b>WALL</b>											
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	210,319	35.0								
	Urban	101,919	17.0								
	<b>Total</b>	<b>312,238</b>	<b>52.0</b>	VH				VH		M	
<b>A2 - Stone Wall not packed with mortar</b>	Rural	2,338	0.4								
	Urban	2,357	0.4								
	<b>Total</b>	<b>4,695</b>	<b>0.8</b>	VH				H		L	
<b>Total - Category - A</b>		<b>316,933</b>	<b>52.8</b>								
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	26,307	4.4								
	Urban	54,944	9.1								
	<b>Total</b>	<b>81,251</b>	<b>13.5</b>	H				H		L	
<b>Total - Category - B</b>		<b>81,251</b>	<b>13.5</b>								
<b>C1 - Concrete Wall</b>	Rural	1,421	0.2								
	Urban	4,548	0.8								
	<b>Total</b>	<b>5,969</b>	<b>1.0</b>	M				L		VL	
<b>C2 - Wood wall</b>	Rural	49,875	8.3								
	Urban	12,825	2.1								
	<b>Total</b>	<b>62,700</b>	<b>10.4</b>	M				VH		M	
<b>Total - Category - C</b>		<b>68,669</b>	<b>11.4</b>								
<b>X - Other Materials</b>	Rural	103,451	17.2								
	Urban	30,331	5.0								
	<b>Total</b>	<b>133,782</b>	<b>22.2</b>	M				VH		M	
<b>Total - Category - X</b>		<b>133,782</b>	<b>22.3</b>								
<b>TOTAL HOUSES*</b>		<b>600,635</b>									

<b>ROOF</b>											
<b>R1 - Light Weight Sloping Roof</b>	Rural	377,822	62.9								
	Urban	172,386	28.7								
	<b>Total</b>	<b>550,208</b>	<b>91.6</b>	M				VH		H	
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	8,659	1.4								
	Urban	9,012	1.5								
	<b>Total</b>	<b>17,671</b>	<b>2.9</b>	H				H		L	
<b>R3 - Flat Roof</b>	Rural	7,230	1.2								
	Urban	25,526	4.2								
	<b>Total</b>	<b>32,756</b>	<b>5.4</b>	Damage Risk as per that for the Wall supporting it							
<b>TOTAL HOUSES*</b>		<b>600,635</b>									

### 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