

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

**Table No. : MN 05**

**State : MANIPUR**

**THOUBAL**

Wall / Roof		Census Houses		Level of Risk under								
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Pron e Area
				V	IV	III	II	55 & 50	47	44 & 39	33	
				Area in %				Area in %				
				100						100		24.0
<b>WALL</b>												
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	44,547	43.3									
	Urban	26,497	25.7									
	<b>Total</b>	<b>71,044</b>	<b>69.0</b>	VH						M		VH
<b>A2 - Stone Wall not packed with mortar</b>	Rural	182	0.2									
	Urban	241	0.2									
	<b>Total</b>	<b>423</b>	<b>0.4</b>	VH						L		VH
<b>Total - Category - A</b>		<b>71,467</b>	<b>69.4</b>									
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	3,629	3.5									
	Urban	4,492	4.4									
	<b>Total</b>	<b>8,121</b>	<b>7.9</b>	H						L		H/M
<b>Total - Category - B</b>		<b>8,121</b>	<b>7.9</b>									
<b>C1 - Concrete Wall</b>	Rural	75	0.1									
	Urban	85	0.1									
	<b>Total</b>	<b>160</b>	<b>0.2</b>	M						VL		L/ VL
<b>C2 - Wood wall</b>	Rural	452	0.4									
	Urban	464	0.5									
	<b>Total</b>	<b>916</b>	<b>0.9</b>	M						M		H
<b>Total - Category - C</b>		<b>1,076</b>	<b>1.0</b>									
<b>X - Other Materials</b>	Rural	16,489	16.0									
	Urban	5,833	5.7									
	<b>Total</b>	<b>22,322</b>	<b>21.7</b>	M						M		VH
<b>Total - Category - X</b>		<b>22,322</b>	<b>21.7</b>									
<b>TOTAL HOUSES*</b>		<b>102,986</b>										
<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	63,846	62.0									
	Urban	35,239	34.2									
	<b>Total</b>	<b>99,085</b>	<b>96.2</b>	M						H		VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	969	0.9									
	Urban	868	0.8									
	<b>Total</b>	<b>1,837</b>	<b>1.7</b>	H						L		H
<b>R3 - Flat Roof</b>	Rural	559	0.5									
	Urban	1,505	1.5									
	<b>Total</b>	<b>2,064</b>	<b>2.0</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>102,986</b>										

**Probable Maximum Precipitation at a Station of the district in 24 hrs is 280 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