

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

**Table No. : MN 09**

**State : MANIPUR**

**CHANDEL**

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		1.9
<b>WALL</b>												
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	14,785	43.6									
	Urban	569	1.7									
	<b>Total</b>	<b>15,354</b>	<b>45.3</b>	VH						M		VH
<b>A2 - Stone Wall not packed with mortar</b>	Rural	28	0.1									
	Urban	12	-									
	<b>Total</b>	<b>40</b>	<b>0.1</b>	VH						L		VH
<b>Total - Category - A</b>		<b>15,394</b>	<b>45.4</b>									
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	895	2.6									
	Urban	397	1.2									
	<b>Total</b>	<b>1,292</b>	<b>3.8</b>	H						L		H/M
<b>Total - Category - B</b>		<b>1,292</b>	<b>3.8</b>									
<b>C1 - Concrete Wall</b>	Rural	36	0.1									
	Urban	46	0.1									
	<b>Total</b>	<b>82</b>	<b>0.2</b>	M						VL		L/VL
<b>C2 - Wood wall</b>	Rural	8,162	24.1									
	Urban	2,031	6.0									
	<b>Total</b>	<b>10,193</b>	<b>30.1</b>	M						M		H
<b>Total - Category - C</b>		<b>10,275</b>	<b>30.3</b>									
<b>X - Other Materials</b>	Rural	6,309	18.6									
	Urban	629	1.9									
	<b>Total</b>	<b>6,938</b>	<b>20.5</b>	M						M		VH
<b>Total - Category - X</b>		<b>6,938</b>	<b>20.5</b>									
<b>TOTAL HOUSES*</b>		<b>33,899</b>										
<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	29,520	87.1									
	Urban	3,458	10.2									
	<b>Total</b>	<b>32,978</b>	<b>97.3</b>	M						H		VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	517	1.5									
	Urban	91	0.3									
	<b>Total</b>	<b>608</b>	<b>1.8</b>	H						L		H
<b>R3 - Flat Roof</b>	Rural	178	0.5									
	Urban	135	0.4									
	<b>Total</b>	<b>313</b>	<b>0.9</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>33,899</b>										

**Probable Maximum Precipitation at a Station of the district in 24 hrs is 480 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