

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

**Table No. : WB 15**

**State : WEST BENGAL**

**HAORA**

Wall / Roof		Census Houses		Level of Risk under								
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Prone Area in %
				V	IV	III	II	55 & 50	47	44 & 39	33	
				Area in %				Area in %				100
<b>WALL</b>												
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	93,935	7.4									
	Urban	57,290	4.5									
	<b>Total</b>	<b>151,225</b>	<b>11.9</b>					<i>M</i>		<i>VH</i>		<i>VH</i>
<b>A2 - Stone Wall not packed with mortar</b>	Rural	2,046	0.2									
	Urban	6,625	0.5									
	<b>Total</b>	<b>8,671</b>	<b>0.7</b>					<i>M</i>		<i>H</i>		<i>VH</i>
<b>Total - Category - A</b>		<b>159,896</b>	<b>12.6</b>									
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	299,264	23.6									
	Urban	629,800	49.6									
	<b>Total</b>	<b>929,064</b>	<b>73.2</b>					<i>L</i>		<i>H</i>		<i>H/M</i>
<b>Total - Category - B</b>		<b>929,064</b>	<b>73.1</b>									
<b>C1 - Concrete Wall</b>	Rural	21,228	1.7									
	Urban	75,164	5.9									
	<b>Total</b>	<b>96,392</b>	<b>7.6</b>					<i>VL</i>		<i>L</i>		<i>L/ VL</i>
<b>C2 - Wood wall</b>	Rural	579	-									
	Urban	2,578	0.2									
	<b>Total</b>	<b>3,157</b>	<b>0.2</b>					<i>VL</i>		<i>VH</i>		<i>H</i>
<b>Total - Category - C</b>		<b>99,549</b>	<b>7.8</b>									
<b>X - Other Materials</b>	Rural	45,355	3.6									
	Urban	36,689	2.9									
	<b>Total</b>	<b>82,044</b>	<b>6.5</b>					<i>VL</i>		<i>VH</i>		<i>VH</i>
<b>Total - Category - X</b>		<b>82,044</b>	<b>6.5</b>									
<b>TOTAL HOUSES*</b>		<b>1,270,553</b>										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	64,782	5.1									
	Urban	57,655	4.5									
	<b>Total</b>	<b>122,437</b>	<b>9.6</b>					<i>L</i>		<i>VH</i>		<i>VH</i>
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	257,395	20.3									
	Urban	339,453	26.7									
	<b>Total</b>	<b>596,848</b>	<b>47.0</b>					<i>L</i>		<i>H</i>		<i>H</i>
<b>R3 - Flat Roof</b>	Rural	140,230	11.0									
	Urban	411,038	32.4									
	<b>Total</b>	<b>551,268</b>	<b>43.4</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>1,270,553</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 524 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