

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

Table No. : GJ 15

State : GUJARAT

ANAND

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			.5		99.5	33.3
<b>WALL</b>												
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	139,668	26.5									
	Urban	25,575	4.9									
	<b>Total</b>	<b>165,243</b>	<b>31.4</b>				<i>M</i>		<i>VH</i>		<i>M</i>	<i>VH</i>
<b>A2 - Stone Wall not packed with mortar</b>	Rural	1,571	0.3									
	Urban	1,503	0.3									
	<b>Total</b>	<b>3,074</b>	<b>0.6</b>				<i>M</i>		<i>H</i>		<i>L</i>	<i>VH</i>
<b>Total - Category - A</b>		<b>168,317</b>	<b>31.9</b>									
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	190,256	36.1									
	Urban	130,345	24.7									
	<b>Total</b>	<b>320,601</b>	<b>60.8</b>				<i>L</i>		<i>H</i>		<i>L</i>	<i>H/M</i>
<b>Total - Category - B</b>		<b>320,601</b>	<b>60.8</b>									
<b>C1 - Concrete Wall</b>	Rural	10,766	2.0									
	Urban	10,170	1.9									
	<b>Total</b>	<b>20,936</b>	<b>3.9</b>				<i>VL</i>		<i>L</i>		<i>VL</i>	<i>L/ VL</i>
<b>C2 - Wood wall</b>	Rural	1,827	0.3									
	Urban	989	0.2									
	<b>Total</b>	<b>2,816</b>	<b>0.5</b>				<i>VL</i>		<i>VH</i>		<i>M</i>	<i>H</i>
<b>Total - Category - C</b>		<b>23,752</b>	<b>4.5</b>									
<b>X - Other Materials</b>	Rural	10,719	2.0									
	Urban	3,652	0.7									
	<b>Total</b>	<b>14,371</b>	<b>2.7</b>				<i>VL</i>		<i>VH</i>		<i>M</i>	<i>VH</i>
<b>Total - Category - X</b>		<b>14,371</b>	<b>2.7</b>									
<b>TOTAL HOUSES*</b>		<b>527,041</b>										

ROOF												
<b>R1 - Light Weight Sloping Roof</b>	Rural	100,997	19.2									
	Urban	45,544	8.6									
	<b>Total</b>	<b>146,541</b>	<b>27.8</b>				<i>L</i>		<i>VH</i>		<i>H</i>	<i>VH</i>
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	137,333	26.1									
	Urban	19,010	3.6									
	<b>Total</b>	<b>156,343</b>	<b>29.7</b>				<i>L</i>		<i>H</i>		<i>L</i>	<i>H</i>
<b>R3 - Flat Roof</b>	Rural	116,477	22.1									
	Urban	107,680	20.4									
	<b>Total</b>	<b>224,157</b>	<b>42.5</b>				Damage Risk as per that for the Wall supporting it					
<b>TOTAL HOUSES*</b>		<b>527,041</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sq.km. is 552 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