

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

## GUJARAT

Wall / Roof		Census Houses		Level of Risk under								Flood Prone Area in %
		No. of Houses	%	EQ Zone				Wind Velocity m/s				
				V	IV	III	II	55 & 50	47	44 & 39	33	
				Area in %				Area in %				
STATE - GUJARAT				18.3	13.4	67.4	.9	26.7	27.3	46.0		7.9
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	2,109,301	14.0									
	Urban	325,593	2.2									
	Total	2,434,894	16.2	VH	H	M	L	VH	H	M		VH
A2 - Stone Wall not packed with mortar	Rural	334,416	2.2									
	Urban	75,550	0.5									
	Total	409,966	2.7	VH	H	M	L	H	M	L		VH
Total - Category - A		2,844,860	18.9									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	4,639,127	30.8									
	Urban	6,090,218	40.4									
	Total	10,729,345	71.2	H	M	L	VL	H	M	L		H/M
Total - Category - B		10,729,345	71.1									
C1 - Concrete Wall	Rural	268,370	1.8									
	Urban	310,817	2.1									
	Total	579,187	3.9	M	L	VL	VL	L	VL	VL		L/VL
C2 - Wood wall	Rural	44,829	0.3									
	Urban	59,667	0.4									
	Total	104,496	0.7	M	L	VL	VL	VH	H	M		H
Total - Category - C		683,683	4.5									
X - Other Materials	Rural	712,272	4.7									
	Urban	113,136	0.8									
	Total	825,408	5.5	M	VL	VL	VL	VH	H	M		VH
Total - Category - X		825,408	5.5									
TOTAL HOUSES*		15,083,296										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	1,799,676	11.9									
	Urban	1,399,670	9.3									
	<b>Total</b>	<b>3,199,346</b>	<b>21.2</b>	<b>M</b>	<b>M</b>	<b>L</b>	<b>VL</b>	<b>VH</b>	<b>VH</b>	<b>H</b>		<b>VH</b>
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	4,122,453	27.3									
	Urban	684,497	4.5									
	<b>Total</b>	<b>4,806,950</b>	<b>31.8</b>	<b>H</b>	<b>M</b>	<b>L</b>	<b>VL</b>	<b>H</b>	<b>M</b>	<b>L</b>		<b>H</b>
<b>R3 - Flat Roof</b>	Rural	2,186,186	14.5									
	Urban	4,890,814	32.4									
	<b>Total</b>	<b>7,077,000</b>	<b>46.9</b>	<i>Damage Risk as per that for the Wall supporting it</i>								
<b>TOTAL HOUSES*</b>		<b>15,083,296</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