

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

**Table No. : GO 01**

**State : GOA**

**NORTH GOA**

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 %				
						100				100		
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	15,323	6.2									
	Urban	11,074	4.5									
	Total	26,397	10.7			M				M		
A2 - Stone Wall not packed with mortar	Rural	14,600	5.9									
	Urban	15,077	6.1									
	Total	29,677	12.0			M				L		
Total - Category - A		56,074	22.6									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	54,121	21.8									
	Urban	102,354	41.2									
	Total	156,475	63.0			L				L		
Total - Category - B		156,475	63.0									
C1 - Concrete Wall	Rural	3,537	1.4									
	Urban	17,440	7.0									
	Total	20,977	8.4			VL				VL		
C2 - Wood wall	Rural	1,114	0.4									
	Urban	1,266	0.5									
	Total	2,380	0.9			VL				M		
Total - Category - C		23,357	9.4									
X - Other Materials	Rural	5,975	2.4									
	Urban	6,413	2.6									
	Total	12,388	5.0			VL				M		
Total - Category - X		12,388	5.0									
TOTAL HOUSES*		248,294										
ROOF												
R1 - Light Weight Sloping Roof	Rural	12,617	5.1									
	Urban	19,259	7.8									
	Total	31,876	12.9			L				H		
R2 - Heavy Weight Sloping Roof	Rural	63,905	25.7									
	Urban	65,149	26.2									
	Total	129,054	51.9			L				L		
R3 - Flat Roof	Rural	18,148	7.3									
	Urban	69,216	27.9									
	Total	87,364	35.2	Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		248,294										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **574 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