

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

**Table No. : HR 18**

**State : HARYANA**

**GURUGRAM**

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			21.2
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	3,510	0.8									
	Urban	7,096	1.7									
	Total	10,606	2.5		H				H			VH
A2 - Stone Wall not packed with mortar	Rural	1,585	0.4									
	Urban	4,383	1.0									
	Total	5,968	1.4		H				M			VH
Total - Category - A		16,574	3.9									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	112,752	26.7									
	Urban	263,951	62.6									
	Total	376,703	89.3		M				M			H/M
Total - Category - B		376,703	89.3									
C1 - Concrete Wall	Rural	1,530	0.4									
	Urban	15,660	3.7									
	Total	17,190	4.1		L				VL			L/VL
C2 - Wood wall	Rural	97	-									
	Urban	483	0.1									
	Total	580	0.1		L				H			H
Total - Category - C		17,770	4.2									
X - Other Materials	Rural	923	0.2									
	Urban	9,859	2.3									
	Total	10,782	2.5		VL				H			VH
Total - Category - X		10,782	2.6									
TOTAL HOUSES*		421,829										
ROOF												
R1 - Light Weight Sloping Roof	Rural	17,885	4.2									
	Urban	32,357	7.7									
	Total	50,242	11.9		M				VH			VH
R2 - Heavy Weight Sloping Roof	Rural	74,757	17.7									
	Urban	60,048	14.2									
	Total	134,805	31.9		M				M			H
R3 - Flat Roof	Rural	27,755	6.6									
	Urban	209,027	49.6									
	Total	236,782	56.2	Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		421,829										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **631 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