

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

Table No. : HR 13

State : HARYANA

BHIWANI

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 %				
					3.4	64.0	32.6		100			.1
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	13,276	3.2									
	Urban	3,028	0.7									
	Total	16,304	3.9		H	M	L		H			VH
A2 - Stone Wall not packed with mortar	Rural	3,475	0.8									
	Urban	1,671	0.4									
	Total	5,146	1.2		H	M	L		M			VH
Total - Category - A		21,450	5.2									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	304,486	73.6									
	Urban	78,656	19.0									
	Total	383,142	92.6		M	L	VL		M			H/M
Total - Category - B		383,142	92.6									
C1 - Concrete Wall	Rural	1,864	0.5									
	Urban	3,111	0.8									
	Total	4,975	1.3		L	VL	VL		VL			L/VL
C2 - Wood wall	Rural	292	0.1									
	Urban	161	-									
	Total	453	0.1		L	VL	VL		H			H
Total - Category - C		5,428	1.3									
X - Other Materials	Rural	2,950	0.7									
	Urban	681	0.2									
	Total	3,631	0.9		VL	VL	VL		H			VH
Total - Category - X		3,631	0.9									
TOTAL HOUSES*		413,651										
ROOF												
R1 - Light Weight Sloping Roof	Rural	94,014	22.7									
	Urban	11,196	2.7									
	Total	105,210	25.4		M	L	VL		VH			VH
R2 - Heavy Weight Sloping Roof	Rural	152,516	36.9									
	Urban	32,875	7.9									
	Total	185,391	44.8		M	L	VL		M			H
R3 - Flat Roof	Rural	79,813	19.3									
	Urban	43,237	10.5									
	Total	123,050	29.8	Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		413,651										

Probable Maximum Precipitation at a Station of the district in 24 hrs is 360 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