

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

**Table No. : UP 24**

**State : UTTAR PRADESH**

**HARDOI**

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				32.5
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	288,595	33.0									
	Urban	9,260	1.1									
	Total	297,855	34.1			M		VH				VH
A2 - Stone Wall not packed with mortar	Rural	3,780	0.4									
	Urban	1,352	0.2									
	Total	5,132	0.6			M		H				VH
Total - Category - A		302,987	34.7									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	411,625	47.1									
	Urban	96,120	11.0									
	Total	507,745	58.1			L		H				H/M
Total - Category - B		507,745	58.1									
C1 - Concrete Wall	Rural	841	0.1									
	Urban	282	-									
	Total	1,123	0.1			VL		L				L/VL
C2 - Wood wall	Rural	1,197	0.1									
	Urban	631	0.1									
	Total	1,828	0.2			VL		VH				H
Total - Category - C		2,951	0.3									
X - Other Materials	Rural	55,552	6.4									
	Urban	4,299	0.5									
	Total	59,851	6.9			VL		VH				VH
Total - Category - X		59,851	6.9									
TOTAL HOUSES*		873,534										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	381,541	43.7									
	Urban	21,093	2.4									
	<b>Total</b>	<b>402,634</b>	<b>46.1</b>			L		VH				VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	11,111	1.3									
	Urban	3,610	0.4									
	<b>Total</b>	<b>14,721</b>	<b>1.7</b>			L		H				H
<b>R3 - Flat Roof</b>	Rural	368,938	42.2									
	Urban	87,241	10.0									
	<b>Total</b>	<b>456,179</b>	<b>52.2</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>873,534</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **586 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