

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

**Table No. : UK 04**

**State : UTTARAKHAND**

**TEHRI GARHWAL**

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 %				
				3.3	96.7					100		
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	6,852	3.2									
	Urban	392	0.2									
	Total	7,244	3.4	VH	H					M		
A2 - Stone Wall not packed with mortar	Rural	63,599	29.6									
	Urban	187	0.1									
	Total	63,786	29.7	VH	H					L		
Total - Category - A		71,030	33.0									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	115,797	53.9									
	Urban	20,332	9.5									
	Total	136,129	63.4	H	M					L		
Total - Category - B		136,129	63.3									
C1 - Concrete Wall	Rural	2,696	1.3									
	Urban	822	0.4									
	Total	3,518	1.7	M	L					VL		
C2 - Wood wall	Rural	1,136	0.5									
	Urban	51	-									
	Total	1,187	0.5	M	L					M		
Total - Category - C		4,705	2.2									
X - Other Materials	Rural	2,021	0.9									
	Urban	1,122	0.5									
	Total	3,143	1.4	M	VL					M		
Total - Category - X		3,143	1.5									
TOTAL HOUSES*		215,007										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	21,748	10.1									
	Urban	2,947	1.4									
	<b>Total</b>	<b>24,695</b>	<b>11.5</b>	M	M					H		
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	75,013	34.9									
	Urban	432	0.2									
	<b>Total</b>	<b>75,445</b>	<b>35.1</b>	H	M					L		
<b>R3 - Flat Roof</b>	Rural	95,340	44.3									
	Urban	19,527	9.1									
	<b>Total</b>	<b>114,867</b>	<b>53.4</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>215,007</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **340 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