

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

**Table No. : UK 02**

**State : UTTARAKHAND**

**CHAMOLI**

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	2,977	1.8									
	Urban	397	0.2									
	Total	3,374	2.0	VH						M		
A2 - Stone Wall not packed with mortar	Rural	65,053	39.5									
	Urban	1,715	1.0									
	Total	66,768	40.5	VH						L		
Total - Category - A		70,142	42.5									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	72,621	44.0									
	Urban	17,292	10.5									
	Total	89,913	54.5	H						L		
Total - Category - B		89,913	54.5									
C1 - Concrete Wall	Rural	1,379	0.8									
	Urban	136	0.1									
	Total	1,515	0.9	M						VL		
C2 - Wood wall	Rural	931	0.6									
	Urban	80	-									
	Total	1,011	0.6	M						M		
Total - Category - C		2,526	1.5									
X - Other Materials	Rural	1,304	0.8									
	Urban	994	0.6									
	Total	2,298	1.4	M						M		
Total - Category - X		2,298	1.4									
TOTAL HOUSES*		164,879										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	16,485	10.0									
	Urban	3,444	2.1									
	<b>Total</b>	<b>19,929</b>	<b>12.1</b>	M						H		
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	82,971	50.3									
	Urban	1,361	0.8									
	<b>Total</b>	<b>84,332</b>	<b>51.1</b>	H						L		
<b>R3 - Flat Roof</b>	Rural	44,809	27.2									
	Urban	15,809	9.6									
	<b>Total</b>	<b>60,618</b>	<b>36.8</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>164,879</b>										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **434 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