

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

Table No. : UK 05

State : UTTARAKHAND

DEHRADUN

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	21,177	4.7										
	Urban	7,197	1.6										
	Total	28,374	6.3		H						M		
A2 - Stone Wall not packed with mortar	Rural	12,384	2.8										
	Urban	3,089	0.7										
	Total	15,473	3.5		H						L		
Total - Category - A		43,847	9.8										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	159,718	35.7										
	Urban	217,821	48.6										
	Total	377,539	84.3		M						L		
Total - Category - B		377,539	84.3										
C1 - Concrete Wall	Rural	3,532	0.8										
	Urban	8,689	1.9										
	Total	12,221	2.7		L						VL		
C2 - Wood wall	Rural	4,860	1.1										
	Urban	1,014	0.2										
	Total	5,874	1.3		L						M		
Total - Category - C		18,095	4.0										
X - Other Materials	Rural	5,021	1.1										
	Urban	3,395	0.8										
	Total	8,416	1.9		VL						M		
Total - Category - X		8,416	1.9										
TOTAL HOUSES*		447,897											

ROOF												
R1 - Light Weight Sloping Roof	Rural	44,929	10.0									
	Urban	35,318	7.9									
	Total	80,247	17.9		M					H		
R2 - Heavy Weight Sloping Roof	Rural	26,662	6.0									
	Urban	5,121	1.1									
	Total	31,783	7.1		M					L		
R3 - Flat Roof	Rural	135,101	30.2									
	Urban	200,766	44.8									
	Total	335,867	75.0	<i>Damage Risk as per that for the Wall supporting it</i>								
TOTAL HOUSES*		447,897										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. **505 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