

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

**Table No. : HP 04**

**State : HIMACHAL PRADESH**

**KULLU**

Wall / Roof		Census Houses		Level of Risk under										
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Prone Area in %		
				V	IV	III	II	55 & 50	47	44 & 39	33			
				Area in %				Area in %						
				60.1	39.9						100			
WALL														
A1 - Mud & Unburnt Brick Wall	Rural	4,004	2.4											
	Urban	564	0.3											
	Total	4,568	2.7	VH	H						M			
A2 - Stone Wall not packed with mortar	Rural	39,177	23.9											
	Urban	760	0.5											
	Total	39,937	24.4	VH	H						L			
Total - Category - A		44,505	27.2											
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	90,364	55.2											
	Urban	14,347	8.8											
	Total	104,711	64.0	H	M						L			
Total - Category - B		104,711	63.9											
C1 - Concrete Wall	Rural	2,292	1.4											
	Urban	1,024	0.6											
	Total	3,316	2.0	M	L						VL			
C2 - Wood wall	Rural	7,986	4.9											
	Urban	675	0.4											
	Total	8,661	5.3	M	L						M			
Total - Category - C		11,977	7.3											
X - Other Materials	Rural	2,277	1.4											
	Urban	349	0.2											
	Total	2,626	1.6	M	VL						M			
Total - Category - X		2,626	1.6											
TOTAL HOUSES*		163,819												

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	35,202	21.5									
	Urban	3,773	2.3									
	<b>Total</b>	<b>38,975</b>	<b>23.8</b>	<i>M</i>	<i>M</i>					<i>H</i>		
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	86,692	52.9									
	Urban	2,287	1.4									
	<b>Total</b>	<b>88,979</b>	<b>54.3</b>	<i>H</i>	<i>M</i>					<i>L</i>		
<b>R3 - Flat Roof</b>	Rural	24,206	14.8									
	Urban	11,659	7.1									
	<b>Total</b>	<b>35,865</b>	<b>21.9</b>	<i>Damage Risk as per that for the Wall supporting it</i>								
<b>TOTAL HOUSES*</b>		<b>163,819</b>										

Probable Maximum Precipitation at a Station of the district in 24 hrs is **400 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