

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

**Table No. : PN 13**

**State : PUNJAB**

**MANSA**

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 %				
						90.5	9.5	10.6	89.4			39.2
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	5,704	3.1									
	Urban	950	0.5									
	Total	6,654	3.6			M	L	VH	H			VH
A2 - Stone Wall not packed with mortar	Rural	904	0.5									
	Urban	446	0.2									
	Total	1,350	0.7			M	L	H	M			VH
Total - Category - A		8,004	4.4									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	128,095	69.8									
	Urban	40,604	22.1									
	Total	168,699	91.9			L	VL	H	M			H/M
Total - Category - B		168,699	92.0									
C1 - Concrete Wall	Rural	2,801	1.5									
	Urban	2,271	1.2									
	Total	5,072	2.7			VL	VL	L	VL			L/VL
C2 - Wood wall	Rural	75	-									
	Urban	32	-									
	Total	107	-			VL	VL	VH	H			H
Total - Category - C		5,179	2.8									
X - Other Materials	Rural	1,169	0.6									
	Urban	384	0.2									
	Total	1,553	0.8			VL	VL	VH	H			VH
Total - Category - X		1,553	0.8									
TOTAL HOUSES*		183,435										

<b>ROOF</b>												
<b>R1 - Light Weight Sloping Roof</b>	Rural	22,619	12.3									
	Urban	3,523	1.9									
	<b>Total</b>	<b>26,142</b>	<b>14.2</b>			L	VL	VH	VH			VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	28,994	15.8									
	Urban	2,158	1.2									
	<b>Total</b>	<b>31,152</b>	<b>17.0</b>			L	VL	H	M			H
<b>R3 - Flat Roof</b>	Rural	87,135	47.5									
	Urban	39,006	21.3									
	<b>Total</b>	<b>126,141</b>	<b>68.8</b>	<i>Damage Risk as per that for the Wall supporting it</i>								
<b>TOTAL HOUSES*</b>		<b>183,435</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