

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

Table No. : KL 13

State : KERALA

KOLLAM

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			28.7
WALL													
<i>A1 - Mud & Unburnt Brick Wall</i>	Rural	60,836	7.2										
	Urban	16,490	2.0										
	Total	77,326	9.2				<i>M</i>				<i>M</i>		<i>VH</i>
<i>A2 - Stone Wall not packed with mortar</i>	Rural	54,129	6.4										
	Urban	28,377	3.4										
	Total	82,506	9.8				<i>M</i>				<i>L</i>		<i>VH</i>
Total - Category - A		159,832	19.0										
<i>B - Burnt Bricks Wall & Stone wall packed with mortar</i>	Rural	320,985	38.2										
	Urban	284,168	33.9										
	Total	605,153	72.1				<i>L</i>				<i>L</i>		<i>H/M</i>
Total - Category - B		605,153	72.1										
<i>C1 - Concrete Wall</i>	Rural	14,624	1.7										
	Urban	11,345	1.4										
	Total	25,969	3.1				<i>VL</i>				<i>VL</i>		<i>L/ VL</i>
<i>C2 - Wood wall</i>	Rural	7,282	0.9										
	Urban	12,533	1.5										
	Total	19,815	2.4				<i>VL</i>				<i>M</i>		<i>H</i>
Total - Category - C		45,784	5.5										
<i>X - Other Materials</i>	Rural	15,827	1.9										
	Urban	12,623	1.5										
	Total	28,450	3.4				<i>VL</i>				<i>M</i>		<i>VH</i>
Total - Category - X		28,450	3.4										
TOTAL HOUSES*		839,219											

ROOF													
<i>R1 - Light Weight Sloping Roof</i>	Rural	73,792	8.8										
	Urban	55,260	6.6										
	Total	129,052	15.4				<i>L</i>				<i>H</i>		<i>VH</i>
<i>R2 - Heavy Weight Sloping Roof</i>	Rural	192,604	23.0										
	Urban	106,154	12.6										
	Total	298,758	35.6				<i>L</i>				<i>L</i>		<i>H</i>
<i>R3 - Flat Roof</i>	Rural	207,287	24.7										
	Urban	204,122	24.3										
	Total	411,409	49.0	Damage Risk as per that for the Wall supporting it									
TOTAL HOUSES*		839,219											

Probable Maximum Precipitation at a Station of the district in 24 hrs is 440 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