

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

Table No. : KL 10

State : KERALA

KOTTAYAM

Wall / Roof		Census Houses		Level of Risk under									Flood Prone Area in % 11.9
		No. of Houses	%	EQ Zone				Wind Velocity m/s					
				V	IV	III	II	55 & 50	47	44 & 39	33		
				Area in %				Area in %					
WALL													
A1 - Mud & Unburnt Brick Wall	Rural	33,052	5.4										
	Urban	10,864	1.8										
	Total	43,916	7.2				<i>M</i>				<i>M</i>		<i>VH</i>
A2 - Stone Wall not packed with mortar	Rural	41,737	6.8										
	Urban	14,233	2.3										
	Total	55,970	9.1				<i>M</i>				<i>L</i>		<i>VH</i>
Total - Category - A		99,886	16.3										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	306,760	50.1										
	Urban	134,077	21.9										
	Total	440,837	72.0				<i>L</i>				<i>L</i>		<i>H/M</i>
Total - Category - B		440,837	72.0										
C1 - Concrete Wall	Rural	22,521	3.7										
	Urban	8,305	1.4										
	Total	30,826	5.1				<i>VL</i>				<i>VL</i>		<i>L/ VL</i>
C2 - Wood wall	Rural	10,833	1.8										
	Urban	2,010	0.3										
	Total	12,843	2.1				<i>VL</i>				<i>M</i>		<i>H</i>
Total - Category - C		43,669	7.1										
X - Other Materials	Rural	22,529	3.7										
	Urban	4,975	0.8										
	Total	27,504	4.5				<i>VL</i>				<i>M</i>		<i>VH</i>
Total - Category - X		27,504	4.5										
TOTAL HOUSES*		611,896											

ROOF													
R1 - Light Weight Sloping Roof	Rural	119,557	19.5										
	Urban	38,458	6.3										
	Total	158,015	25.8				<i>L</i>				<i>H</i>		<i>VH</i>
R2 - Heavy Weight Sloping Roof	Rural	174,633	28.5										
	Urban	64,214	10.5										
	Total	238,847	39.0				<i>L</i>				<i>L</i>		<i>H</i>
R3 - Flat Roof	Rural	143,242	23.4										
	Urban	71,792	11.7										
	Total	215,034	35.1				<i>Damage Risk as per that for the Wall supporting it</i>						
TOTAL HOUSES*		611,896											

Probable Maximum Precipitation at a Station of the district in 24 hrs is 480 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