

FORM NO. 20
MODEL PROFORMA FOR TECHNICAL AUDIT REPORT

1. Design

	COMMENTS
1.1 Design / Drawings available	Y/N
Design Category Type Design? Specific design?	Y/N Design to be collected to refer to Design Consultant / H.O.
Drawings prepared / checked by competent Authority ?	Y/N
Design Drawings / details Structural detailed included Earthquake / cyclone resistant features included?	Y/N
Design verified / vetted by Dept. / Govt. approved agency / competent authority?	Y/N
Design changes approved by Dept. / Govt. approved agency / competent authority?	Y/N

2. Foundation

- 2.1 Foundation used Existing/New
- 2.2.1 **If existing foundation used**
- 2.2.1 Depth of foundation below ground : <50cm/50-70/>70cm
- 2.2.2 Type of foundation : Isolated/Combined/Raft/Piled etc.
- 2.2.3 Thickness of masonry (above ground) :
- 2.2.4 Mortar used and Mix of cement mortar : Cement-Sand/Lime and 1:4/1:6/Leaner
- 2.2.5 Grade of concrete (M20) : Y/N
- 2.2.6 Height up to Plinth : _____ cm
- 2.2.7 If stone masonry
- 2.2.7.1 Through Stones : Yes/No, if Yes Adequate / Inadequate
- 2.2.7.2 Corner Stones : Yes/No, if Yes Adequate/Inadequate
- 2.3 If new foundation used
- 2.3.1 Depth of foundation below ground : _____ <50/50-70/>70cm
- 2.3.2 Type of foundation : Isolated/Combined/Raft/Piled etc.
- 2.3.3 Thickness of Masonry above plinth : _____
- 2.3.4 Mortar used and Mix of cement mortar (1:4): Cement – sand/lime/mud and Y/N
- 2.3.5 Grade of concrete (M20) : Y/N
- 2.3.6 Height up to Plinth : <60/>60cm
- 2.3.7 If stone masonry
- 2.3.7.1 Through Stones : Yes/No, if Yes Adequate/Inadequate
- 2.3.7.2 Corner Stones : Yes/No, if Yes Adequate/Inadequate

Vertical reinforcement in foundation : Yes/No

3 Walling

- 3.1 Type of masonry : Brick/PCC Blocks/ Stone
- 3.2 Mortar used : Cement – Sand/Lime
- 3.3 Mix of cement mortar : 1:4/1:6/Leaner
- 3.4 Thickness of wall : >23cm/23cm/23cm
- 3.5 Mixing of mortar : OK/Not OK
- 3.6 Joint Property filled : OK/NOT OK
- 3.7 Wetting of bricks : Good/ Medium/ Poor
- 3.8 If stone masonry
- 3.8.1 Through Stones : Yes/No
- 3.8.2 Corner Stones : Yes/No
- 3.9 Overall workmanship : Good / Medium / Poor

4 Roofing

- 4.1 Type of roof : Flat/Sloping
- 4.2 If sloped : A.C. sheet/ G.I. sheet /Morbid tiles
- 4.3 Purlins : Angle-Iron / Timber / NA
- 4.4 Truss type : _____
- 4.5 Anchorage with wall : Adequate/ Inadequate/ NA

5 Materials

- 5.1 Cement
 - 5.1.1 Source : Authorized Dealer/ Market
 - 5.1.2 Type of cement : OPC/PPC/PSC
 - 5.1.3 If OPC : Grade (33/ 43/ 53)
- 5.2 Sand
 - 5.2.1 Type of sand : River sand / Stone dust
 - 5.2.2 Presence of deleterious materials : Mild / Moderate/ High
- 5.3 Coarse Aggregates
 - 5.3.1 Type coarse Aggregates : Gravel/ Crushed Stone
 - 5.3.2 Presence of deleterious material : Mild/ Moderate / High
- 5.4 P.C.C. Blocks (Applicable for onsite production)
 - 5.4.1 Type of P.C.C. Blocks : Solid blocks/Hollow blocks
 - 5.4.2 Ratio of concrete in blocks : _____
 - 5.4.3 Interlocking feature : Yes/No
 - 5.4.4 Course aggregates used : Natural/ Crushed stone
- 5.5 Bricks Blocks, Stone etc.
 - 5.5.1 Strength (field assessment) : Low/Medium/High
 - 5.5.2 Dimensional accuracy : Yes/No
- 5.6 Concrete
 - 5.6.1. Mix of concrete : M20/Design Mix
 - 5.6.2 Batching : Weigh batching/Volume batching
 - 5.6.3 Compaction : Vibrators/Thappies and rods
 - 5.6.4 Workability : Low / Medium / High

- 5.6.5 Availability of water : Optimum/Sufficient / Insufficient
 5.6.6 Curing : Satisfactory/Unsatisfactory.
- 5.7 Reinforcing Steel
- 5.7.1 Type of Steel : Plain mild steel/HYSD bars
 5.7.2 Source : Authorised Dealer/Market
 5.7.3 Whether IS marked : Yes/No
 5.7.4 Conditions of bars : Clean/Corroded
 5.7.5 Fixing of reinforcement as per drawing : Yes/No
 5.7.6 Suitable cover : Yes/No
 5.7.7 Spacing of bars : Regular/Irregular
 5.7.8 Overlaps as per specifications : Yes/ No
- 5.8 Form Work
- 5.8.1 Type of Form Work : Timber / Plyboard/ Steel
 5.8.2 Use of mould oil : Yes/No
 5.8.3 Leakage of cement slurry : Observed/Not observed
- 5.9 Source
- 5.9.1 Cement
 5.9.2 Sand
 5.9.3 Coarse Agg.
 5.9.4 Bricks
 5.9.5 PCC blocks.

6 Seismic resistance features

6.1 Masonry Structures

6.1.1 Provision of bands at Provided Adequate

- | | | |
|------------------------------------|--------|--------|
| 6.1.1.1 Plinth level | Yes/No | Yes/No |
| 6.1.1.2 Sill level | Yes/No | Yes/No |
| 6.1.1.3 Lintel level | Yes/No | Yes/No |
| 6.1.1.4 Roof level (if applicable) | Yes/No | Yes/No |

6.1.2 If sloped Roof, whether seismic bands are provide at

- | | | |
|------------------------|--------|--------|
| 6.1.2.1 Gable wall top | Yes/No | Yes/No |
| 6.1.2.2 Eaves level | Yes/No | Yes/No |

6.1.3 Provision of vertical steel in masonry at Provided Adequate

- | | | |
|----------------------------|--------|--------|
| 6.1.3.1 Each corner | Yes/No | Yes/No |
| 6.1.3.2 Each T-junction | Yes/No | Yes/No |
| 6.1.3.3 Each door joint | Yes/No | Yes/No |
| 6.1.3.4 Around each window | Yes/No | Yes/No |

6.1.4 Openings

- | | |
|---|--|
| 6.1.4.1 Total width of openings | : <50%/50*-60%/>60%
(*-42% for double storey) |
| 6.1.4.2 Clearance from corner | : OK/Not OK |
| 6.1.4.3 Pier width between two openings | : OK/Not OK |

6.2 Framed Structures

- 6.2.1 Ductile detailing
- 6.2.1.1 Spacing of stirrup : OK/Not OK
- 6.2.1.2 Sizes of members : OK/Not OK
- 6.2.1.3 End anchorage : OK/Not OK
- 6.2.1.4 Lapping (length, location etc.) : OK/Not OK
- 6.2.1.5 Angle of stirrup hook : 90 / 135 degrees

6.3 Any testing carried out by Owner/Engr. Supervisor on

Testing done Testing results

- | | | |
|--------------------------------|--------|-----------|
| 6.3.1 Water | Yes/No | OK/Not OK |
| 6.3.2 Cement | Yes/No | OK/Not OK |
| 6.3.3 Bricks/PCC blocks/Stones | Yes/No | OK/Not OK |
| 6.3.4 Aggregate | Yes/No | OK/Not OK |
| 6.3.5 Mortar | Yes/No | OK/Not OK |
| 6.3.6 Concrete | Yes/No | OK/Not OK |
| 6.3.7 Reinforcement | Yes/No | OK/Not OK |