

Job Aid:

Inspection Checklist for Masonry Construction

■ Plans

1. Is continuous inspection necessary?
 Are called inspections necessary?

■ Materials

2. **Concrete masonry units:**
 - Type and quality
 - Strength of the masonry complies with plans
 - Is a laboratory test required?
 - Correct size and type, (per UBC Standard Nos. 21-4, 21-5).
 - Curing (UBC Standard Nos. 21-4, 21-5)
 - Cleanliness.
 - Soundness (UBC Standard Nos. 21-4, 21-5)
 - Are required inspection holes provided?
3. **Sand:**
 - Cleanliness
 - Quality and fineness
 - Compliance with code requirements (ASTM C144)
4. **Cement:**
 - Meets requirements of the UBC Standards (UBC Standard No. 21-15).
5. **Aggregates:**
 - Meet the requirements of UBC Standards (ASTM C144 and C404).
6. **Lime:**
 - Conforms to the UBC Standards (UBC Standard No. 21-13).
7. **Water:**
 - Is clean and free from harmful substances.
8. **Plasticizing agents:**
 - Conform to Standards.
9. **Admixtures conform to the following requirements:**
 - Have been approved.
 - Are of right quantity.
 - Are not used with plastic cement.
10. **Reinforcing steel:**
 - Kind and grade.
 - Max. Size (UBC No. 2107.2.2. 1)

■ Workmanship

11. Sample panels have been provided and approved, if required.

12. Mortar:

- Proportions of the mortar mix and time Of mixing.
- Consistency of mortar.
- Clean water is used
- Mortar is properly handled in mixing
- Mortar is not excessively retempered.
- Work is kept dry at all times.
- Mortar classified by type and use (UBC Table No. 21-A)

13. Grout:

- Proportions (UBC Table No. 21-B).
- Consistency.
- Compressive strength (UBC Standard No. 21-19).
- Handling.
- Segregation.

■ Construction

14. Bearing on solid masonry:

- Suitability of bearing masonry
- Size of bearing masonry
- Location of bolt ties (UBC No. 2106.3.7)
- Size, length, placement and embedment of connectors.

15. Masonry on concrete:

- Width and depth of footing excavations.
- Anchorage around main steel
- Grouting and metal inserts
- Type, spacing and material of ties.
- Embedment of ties or connection to main steel.

16. Proper sill material and anchorage of supporting members to footings.

17. Head, bed, end and wall joints:

- Correct size and type
- Buttered where required
- Joints where fresh masonry is joined to set masonry.
- Properly filled with mortar. (Exception: UBC No. 2104.4.4).
- Watertight (bug holes filled).

Job Aid:

Inspection Checklist for Masonry Construction (continued)

- **Construction (continued)**
- 18. **Reinforced hollow unit masonry:**
 - Vertical alignment and continuity of cells
 - Requirements when work is stopped for one hour or longer.
 - Leakage of grout.
 - Cleanout openings for pours over 5 ft. (15 m) (UBC No. 2104.6. 1).
 - Overhanging mortar.
 - Sealing of cleanout cells.
 - Position of reinforcement.
 - Reinforcing hooks and splices (UBC Nos. 2107.2.2.5, 2107.2.2.6).
- 19. ○ Racking and toothing at wall intersections.
- 20. ○ Corners and returns.
- 21. **Reinforcing steel:**
 - Clearances.
 - Deformation.
 - Additional steel around openings (UBC No. 2106.1.12.3 Item 3)
 - Placed within allowable tolerances (UBC No. 2104.5).
- 22. **Connections:**
 - Size and location of joist anchors.
 - Size, location and number of bolts
 - Size and location of dowels
 - Location of stirrups.
 - Veneer ties (if any)
- 23. ○ Separation between buildings.
- 24. ○ Thickness of the walls.
- 25. ○ Size of bond beams.
- 26. ○ Placement of headers and lintels of material other than masonry.
- 27. ○ Wall ties.
- 28. **Unprotected steel supporting members:**
 - Correct location of mechanical installation supports.
 - Size and location of bolts and connections.
 - Size and spacing of bracing connections.
 - Size and alignment of connection holes.
 - Shims and dry packing.
 - Location and size of stiffeners.
 - Size and alignment of base plates.
- 29. **Anchoring of wood floor joists to supporting masonry members:**
 - Required size of ledges.
 - Required size, spacing and length of bolts and joist anchors.
- 30. **Where floor joists are parallel to the wall:**
 - Placing of required blocking.
 - Type of anchors required.
 - Use of proper connections to anchors.
- 31. **Floor joists tying to a masonry wall:**
 - Required size, spacing and bearing of joists
 - Required air space around joists
 - Required anchors
 - Required bridging and/or blocking
 - Connection to ledger
 - Required connectors for anchors
- 32. **Where fire-resistant floors are required.**
 - Proper material for fire resistance
 - Required thickness of floor slab
 - Required supports
 - Required reinforcing
 - Required time for supports and forms to remain in place for concrete floors
- 33. ○ Contraction joints and control joints are located and provided as indicated or required.
- 34. ○ Weepholes are provided if required.
- 35. **Chases.**
 - Location and spacing on approved plans.
 - Purpose.
 - Maximum permitted depth.
 - No reduction of the required strength and fire resistance of the wall.
- 36. **Where there is a change of thickness in non-bearing walls**
 - Locate the position on plans.
 - Required top plates comply
 - location of ties, anchors, bolts and blocking.
- 37. **Corbeling:**
 - Maximum projections
 - Bonding and anchorage
 - Required temporary supports
 - Required reinforcing.
- 38. ○ Pointing, replacement of defective units, and repair of other defects are promptly performed.
- 39. ○ Waterproofing of walls is performed as required.
- 40. ○ Methods of final cleaning are as required.

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