

SECTION 09200

LATH AND PLASTER

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Extent of Work: The extent of lath and plaster work is shown on the drawings and in schedules and includes interior and exterior plaster work, and fibreglass fabric lath.

1.02 QUALITY ASSURANCE

- A. Fire-Resistance Rating: Fire rated assemblies shall comply with BS 476 and all applicable parts, or other design acceptable to the Engineer.

- B. Allowable Tolerance For Finished Work: For flat surfaces, do not exceed 3.0 mm in 3.0 meters for bow or warp of surface and for plumb or level.

- C. Codes and Standards: Comply with the applicable requirements of the following:

BS	British Standards.
882	Specification for Aggregate From Natural Sources for Concrete.
890	Specification for Building Limes.
1199	Specification For Building Sands from Natural Sources.
3900	Methods of Tests for Paints.
4027	Specification for Sulphate Resisting Cement Type V.
5262	Code of Practice for External Rendered Finishes.
5492	Code of Practice for Internal Plastering.
8000	Workmanship on Building Sites.

Part 10:1989, Code of Practice for Plastering and Rendering.

- D. Mock-up Installation: Prior to installation of plaster work, provide sample mock-up panels using materials specified for final work. Build sample panels at the site, of full thickness and approximately 1.2 meters x 1.2 meters. Demonstrate the proposed range of colors, textures and workmanship to be expected in the completed work, and submit samples to the Engineer for review. Retain sample

panels during construction as a standard for judging completed internal plaster work and external finishes system. Do not alter, move or destroy sample panels until all plastering work on internal surfaces and coating work on external surfaces has been completed.

1.03 SUBMITTALS

- A. Manufacturer's Certificates: Submit manufacturer's certificates showing compliance with the specified material requirements and installation and workmanship instructions.
- B. Samples: Submit 300 mm long samples of all accessories proposed.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Except for sand and water, deliver materials to the site in sealed containers or bags fully identified with manufacturer's name, brand, type and grade. Store materials in a dry, well-ventilated space, under cover, off the ground, and away from surfaces subject to dampness or condensation.
- B. Accessories shall be bundled or delivered in their original containers bearing the name of the manufacturer and item identification.

1.05 JOB CONDITIONS

- A. Protection:
 - 1. General: Protect contiguous work from moisture deterioration and soiling, which may result from plastering operations. Provide temporary covering and whatever other provisions may be necessary to minimize harmful spattering of plaster on other work.
 - 2. Finished door and window frames and other surfaces which do not receive a plaster finish shall be well protected during plastering or coating application.
- B. Environmental Conditions:
 - 1. General: Protect plaster against uneven and excessive evaporation and from strong flows of dry air, both natural or artificial. Apply and cure plaster as required by climatic conditions to prevent rapid dryout. Provide suitable coverings, moist curing, barriers to deflect sunlight and wind, or combination of these as required by the Engineer.
 - 2. Temperature: Carry out plaster and coating work when air temperature ranges between 13°C and 35°C. Maintain temperature in a uniform range above 13°C for an adequate period prior to application of plaster, while plastering is being applied and until plaster is dry.

3. Hot Weather: No plastering or coating shall be carried out when temperature is above 35°C unless the Contractor provides adequate cooling to maintain a uniform temperature below 35°C.
4. Cold Weather: In cold weather, the Contractor shall provide sufficient heat to be well distributed in all areas with deflection or protective screens in order to prevent concentrated or irregular heat on plastered or coated areas near heat source.
5. Ventilation: Provide adequate ventilation to properly dry interior plaster during and subsequent to its application.

PART 2 - PRODUCTS

2.01 CEMENT PLASTER

- A. Portland Cement: To BS 4027. Provide white cement where required for white cement plaster and as directed.
- B. Lime: To BS 890, special finishing hydrated lime. Lime shall not be used on exterior plaster.
- C. Aggregates: Provide aggregate complying with requirements of BS 882 and observe maximum limitations on chlorides and sulphates in fine aggregates specified in Section 03300 "CAST-IN-PLACE CONCRETE". For base and finish coats provide aggregates of the following gradations:

1. Base Coat:

<u>Standard Sieve</u>	<u>Percent Retained By Weight +2%</u>	
	<u>Minimum</u>	<u>Maximum</u>
4.75 mm	-	0
2.36 mm	0	10
1.18 mm	10	40
600 microns	30	65
300 microns	70	90
150 microns	95	100

2. Finish Coat: Same as base coat except that 100% passing 2.36 mm sieve.

- D. Water: Clean, potable and free from, deleterious amounts of oils, salts, alkali, organic matter and other harmful materials.

2.02 PLASTER ACCESSORIES

- A. Corner Beads: Not less than 0.6 mm galvanized steel for interior use and zinc

coated for exterior use, formed with a head not exceeding 5 mm radius, with 50 mm wide expanded flanges.

- B. Casing Beads: Not less than 0.7 mm galvanized steel for interior use and zinc coated for exterior use. Minimum 50 mm wide expanded flanges.
- C. Expansion Control Joints: Galvanized bellows type with expansion flanges. In soffits use vent type control joints.
- D. Two-Piece Control Joints: Manufacturer's Standard roll-formed pair of casing beads with modified back flanges providing positive slip joint action and dust barrier, adjustable for joint width variation of 3 mm to 16 mm.
- E. Fasteners: Galvanized steel, of type and length suitable for adequate penetration of the substrate.

2.03 MIXES

- A. Mixing:
 - 1. General: Accurately proportion materials for each plaster batch with measuring devices of known volume.
 - 2. Mechanical Mixing: Clean mixer of set or hardened materials before loading for new batch. Maintain mixer in continuous operation while adding materials and conform to mixing sequence and cycle of operations.
 - 3. Hand Mixing: Unless otherwise specifically authorized by the Engineer, hand mixing is not permitted.
- B. Mix Proportions by Volume: Unless otherwise specified comply with the requirements of BS 5492 for the proportioning of materials and manner of mixing the plaster for each required application. Establish mix proportions for each type and coat of plaster and submit to the Engineer for review.
 - 1. Interior Plaster:
 - a. Dash Coat: One (1) part portland cement and 0-2 parts sand.
 - b. Base coat/scratch coat:
 - i. One part cement and 0-1/2 parts lime.
 - ii. 2-1/4 -4 parts sand per sum of cementitious materials.
 - c. Finish Coat (Majoon):
 - i. One part portland cement and 0-1/4 parts lime.

- ii. Three parts sand per sum of cementitious materials.
- 2. Exterior Plaster: Mix proportions for interior plaster are applicable except that lime shall not be used.

PART 3 - EXECUTION

3.01 INSPECTION

- A. The Contractor shall examine the substrates and the conditions under which portland cement plaster or coating work shall be carried out and correct any unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.
- B. Prior to all plaster or coating work, carefully inspect the installed work of all other sections and verify that all such work is complete to the point where plastering or coating may properly commence.
- C. Verify that the external coating system is installed in accordance with the manufacturer's instruction and recognised standards.
- D. Verify that lath and plaster may be installed in accordance with the reference codes and standards and the design requirements.
- E. Do not install plaster or coating work over any work, including mechanical and electrical which require inspection, until such inspections have been made.
- F. Ensure that all required and necessary insulation has been installed to building surfaces, pipes and other items.
- G. Examine construction, grounds, and accessories to insure that finished plaster surfaces will be true to line, level, and plumb, without requiring additional thickness of plaster. Maximum variation of surface to receive plaster shall be 6 mm in 1.2 m from the required plane when measured with a straight edge.

3.02 INSTALLATION

- A. Installation of Support System:
 - 1. General:
 - a. Standard: Unless otherwise specified, comply with the applicable requirements of BS 729.
 - b. Isolation: Where lathing and support system abuts building structure horizontally, and where partition/wall work abuts overhead structure, isolate the work from structural movement sufficiently to prevent transfer of loading into the work from the building structure. Install slip or cushion type joints to absorb deflections but maintain lateral support. Frame both sides of

control and expansion joints independently, and do not bridge joints with furring and lathing or accessories.

- c. Fixture Support Framing: Install supplementary framing, blocking and bracing where work is indicated to support fixtures, equipment, services, casework, heavy trim and furnishings and similar work requiring attachment and support.
- 2. Ceiling Suspension System: Secure hanger to structural support by connecting directly to structure where possible, otherwise connect to inserts, clips or anchorage devices or fasteners as indicated.
 - 3. Plastering Accessories:
 - a. Anchor each flange of accessories not more than 200 mm on centers to plaster base.
 - b. Miter or cope accessory corners, and install with tight joints accurately aligned.
 - c. Set accessories plumb, level and true to line, with a tolerance of 3 mm in 3.0 meters.
 - d. Install metal corner beads at external corners and on corners of structural steel columns.
 - e. Install casing beads at terminations of plaster work, except where plaster is indicated to pass through other work and be concealed by lapping work, and except where special screens, bases or frames act as casing beads including interior metal door frames.
 - i. For exterior work, set casing beads 6 mm from abutting frames and other work (for application of sealant).
 - ii. Where plaster abuts concrete, set casing bead 6mm from concrete.
 - iii. Where interior plaster abuts exterior masonry, apply waterproof plastic adhesive tape on concealed face of bead.
 - iv. At "Control Joints" set pair of casing beads back to back, with metal strip behind anchored to only one side of joint.

B. Installation of Plaster:

- 1. General: Unless otherwise specified, comply with the applicable requirements of BS 5492.

2. Mechanically mix plaster materials; do not hand mix except where small amounts are needed which require less than one bag of cementitious material.
3. Grout hollow metal frames, bases and similar work occurring in plastered areas, with base-coat plaster material, and prior to lathing where necessary. Except where full grouting is indicated or required for fire-resistance rating, grout 150 mm lengths at each anchorage.
4. Sequence plaster installation properly with the installation and protection of other work, so that neither will be damaged by the installation of the work.
5. Plaster flush with frames and other built-in metal items or accessories which act as a plaster ground, unless otherwise shown. Where plaster is not terminated at metal by casing beads, cut base-coat free from metal before plaster sets and groove finish coat at the junctures with metal.
6. Plaster shall consist of three-coat work on lathed surfaces, two-coat work on masonry, and two-coat on exterior work.
7. Grounds and Screeds: Wherever permanent grounds are too far apart to serve as guides for rodding, install plaster screeds and establish true surface of screeds with rod, before screeds are set.
8. Do not use materials which are caked or lumpy, or are contaminated with foreign materials.
9. Place mixed plaster within a maximum of 2-1/2 hours after mixing, except during hot, dry weather, reduce maximum placing time as required to prevent premature stiffening of plaster. Do not re-temper stiffened plaster with additional water.
10. Apply dash coat as required on concrete or masonry surfaces prior to the application of basic or scratch coat.
11. Interior Application: In addition to dash coat and unless otherwise indicated, apply 2 coat plaster, i.e. scratch and finish coats, over direct-plastered concrete and masonry substrates to a total minimum thickness of 15 mm (*such as internal walls*) except that in horizontal applications total thickness shall not exceed 10 mm (*such as internal ceilings*). Thickness shall be measured from face of concrete, masonry, rigid insulation board, or back of metal lath as applicable.
12. Exterior Application: In addition to dash coat and unless otherwise indicated, apply 2 coat plaster, i.e. scratch and finish coats, over direct-plastered concrete and masonry substrates to a total minimum thickness of 20 mm (*such as external walls & ceilings*). Thickness shall be measured from face of concrete, masonry, rigid insulation board, or back

of metal lath as applicable.

C. Expansion/Contraction Joints for Cement Plaster and Lath Suspended Ceilings:

Place expansion/contraction joints at not further than 3 metre spacing in any direction. The area of panels bounded by expansion/contraction joints shall not exceed 9 square meters.

D. Ventilation Strips:

Ventilation strips shall be used for ventilating all dead air spaces. Where plenum or attic spaces are closed off by ceiling installation, ventilation shall be provided with a minimum of 35 cm sq. per square metre.

E. Moisture Retention, Curing:

1. Dampen previous plaster coats which have dried out prior to time for applications for next coat.
2. The Contractor is responsible for determining the most effective procedure for curing and time lapse between application of coats based on climatic and job conditions.

F. Cutting and Patching: Cut, patch, point-up and repair plaster as necessary to accommodate other work and to restore cracks, dents and imperfections. Repair or replace work to eliminate blisters, buckles, excessive crazing and check cracking, dry-outs efflorescence, sweat-outs and similar defects, including areas of the work which do not comply with specified tolerances, and where bond to the substrate has failed. Sand smooth trowelled finishes lightly to remove trowel marks and arises.

G. Cleaning and Protection: Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces which are not to be plastered. Repair floors, walls and other surfaces which have been stained, marred or otherwise damaged during the plastering work. When plastering work is completed, remove unused materials, containers and equipment and clean floors of plaster debris.

H. Painting: Galvanized fasteners, hangers and all accessories, shall not require finish painting after installation, unless otherwise directed by the Engineer.

**** END OF SECTION ****