



OGDCL PAKISTAN:
OIL & GAS DEVELOPMENT
COMPANY LIMITED

KPD-TAY Compression Project (Phase-II)

ISSUED FOR TENDER

REV	DATE	DESCRIPTION	ORIG	CHKD	LE	QA	PM	LOCAL REPR.	PROJ. MAN
0	6-1-2022	ISSUED FOR TENDER	HB	MD	KM	MPM	MAS		
A	29-10-2021	ISSUED FOR REVIEW	HB	MD	KM	MPM	MAS		
REVISIONS			APPROVAL					CLIENT APPROVAL	



ENAR Petrotech Services (Pvt.) Limited ,
7-B , Sector 7-A , Korangi Industrial Area ,
Karachi Pakistan

TITLE:

SPECIFICATION FOR CEMENT PLASTER

PROJECT NO.
14-0258

DOCUMENT NO:

0258 – CA – 7005 – 0



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1.0 **GENERAL**

Except as may be otherwise shown on surfaces specified, all plaster work, both internal and external shall be ordinary Portland cement plaster of the required thickness as shown on the drawings.

Plastering shall not commence until all electric conduits, drainage and sanitary pipes, inlets to tanks, brackets, clamps, doors and window frames and all sorts of inserts and embedded items are fixed in position.

2.0 **MATERIAL**

Cement for plaster shall be Ordinary Portland cement (B.S 12 or P.S. 232) or Sulphate resisting cement (B.S. 4027 or P.S. 612) as specified and shall conform to requirements specified in the section "Plain and Reinforced Concrete".

Sand for plaster shall comply with the requirements of BS 1199, BS 1200 or the draft Pakistan Standard "Sand for Plaster".

Water for plaster shall conform to requirements specified in the section for "plain and reinforced concrete".

All materials and workmanship for plaster, not explained in these specifications, shall comply with the requirements of relevant BS CP 211 and CP 221.

3.0 **PROPORTIONING AND MIXING**

Measurement of materials shall be by containers of known capacity to maintain consistent proportions. No lumpy or caked material shall be used. Mixing equipment boxes and tools shall be clean. Materials shall be proportioned as specified on the drawings. Mixing shall be continuous until all ingredients are evenly distributed and thoroughly mixed.

Only limited water shall be added for proper workability and such quantity of mortar shall be prepared which can be consumed in thirty minutes after preparation. Preparation of mortar in bulk quantity for use during the entire day or for any other



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time more than that stipulated above is expressly prohibited. Re tempering shall not be permitted and all mortar which has begun to stiffen shall be discarded.

Plaster ingredients shall be thorough mixed either by hand on a clean cement concrete platform or by a mechanical mixer.

4.0 PREPARATION OF SURFACE TO BE PLASTERED

Concrete surface to be plastered shall be cleaned to remove all grease, form oil and other surface impurities, which will otherwise adversely affect the adhesion of plaster to the surface concerned. The surface of all-concrete ceilings, beams and columns shall be lightly hacked by approved means to give the required key for plastering.

The surface shall be washed with clean water and kept damp for 24 hours before further treatment. The surface thus prepared shall be treated uniformly with cement and sand slurry just before the application of plaster.

5.0 APPLICATION OF PLASTER

If the plaster is to be more than 13mm thick, it shall be done in two coats. The surface of first coat shall be made rough before the second coat is applied. The plaster shall not have wavy surface and shall be perfectly in plumb. The edges and corners shall represent a straight line. The plaster shall be kept wet continuously for at least ten (10) days. The plasterwork is to cover all conduits, pipes etc. fixed in the walls and ceiling. Wherever specified, metal lath shall be nailed firmly before plastering is commenced. The plaster surface shall be tested frequently with a 3-meter straight edge gazzaz and plumb bob.

Plaster containing cracks, blisters, pits, discolouration or any defects shall not be acceptable. Any such plaster or loose plaster shall be removed and replaced with plaster in conformity with these specifications

6.0 METAL LATH OVER REINFORCED CONCRETE AND MASONRY JOINT

Metal lathing shall be fabricated from sheet steel and shall be of uniform quality and free from flaws broken strands, cracks and corrosive pitting, shall be rectangular and true to shape and shall comply with BS 1369.



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All lathing shall be galvanized. Where plastering material depends entirely on the lathing for its key, these shall be not less than two complete mesh openings per 28mm in one direction and the width of the aperture shall not be less than 5mm.

Sheets shall not be less than 1.60 kg/m^2 when fabricated, using 0.7mm thick steel sheet. Where used on smooth surfaces to form a key it shall be not less than 1.20 kg/m^2 when fabricated, using 0.5mm thick steel sheet. Tying wire shall be 1.2mm diameter galvanized annealed from wire.

Before plastering, wherever block masonry/brick masonry meets with reinforced concrete members a 150mm wide continuous strip of expanded metal lath shall be nailed to be masonry and the reinforced concrete member covering the joint completely to prevent cracking of the joint.

7.0 **BEADS**

Angle beads, stop beads, depth gauge beads, edging profiles, plaster dividing profiles, interior angle profiles, plaster borders and the like shall all be manufactured from sheet steel and galvanized after fabrication, all beads shall be perforated at edges to ensure good adhesion of the plaster work. Thickness and dimensions shall suit particular locations and plaster thickness.

All angle beads, stop beads, depth gauge beads and the like are to be fixed in accordance with the manufacturer's instructions, where shown on the drawings.

8.0 **PLASTER WORKS**

Where specified in the drawings external surface shall have an average 20mm thick plaster finish, consisting of a base coat of 1:4 cement sand mortar in Grey cement and the finish coat of smooth plaster as shown on the drawings.

Where specified in the drawings all internal plaster shall have an average 12mm thick consisting of base coat of 1:4 cement sand mortar in gray cement and finish coat of smooth plaster as shown on the drawings.

8.1 **Water Proof Plaster**

- Water Tanks & other Structures



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- All water retaining storage tanks and other structures shall be given a waterproofing treatment on the inside. Water proofing treatment shall be given to the bottom slabs and vertical walls of the tanks. The plaster shall be made by mixing waterproofing compound in the cement-sand mix of 1:4 by volume according to the manufacturer's instructions for treatment of water tanks and applied in one layer of ¾" on all inner surfaces. Waterproofing compound in sealed containers only shall be allowed. Only waterproofing compound duly approved by the OGDCL / OGDCL's Representative shall be allowed for use. In water tanks all corners vertical as well as horizontal shall have triangular can strips 6"x6" size in mortar 1:6. The internal surfaces of tanks to receive waterproofing treatment shall be made rough for bonding. After the surface has been made rough, the layer of waterproofing plaster ¾" thick shall be then applied and its surface shall be made smooth by the use of a trowel or other suitable instrument. The layer shall be allowed to cure for a minimum of 14 days.
- Waterproof plasterwork shall not be started till all pipes have been installed by the plumbing Contractor. Any damage or leak discovered in the tank shall be repaired by the Contractor at his own cost.
- All surfaces shall be thoroughly sprayed with water and all free water allowed to disappear before plaster is applied.

8.2 Curing of Plaster etc.

- Each coat of plaster should be kept damp for the first 7 days. Care must be taken to prevent too rapid drying out during hot weather and in drying winds. The Contractor shall therefore provide a protective covering of plastic or similar impervious sheeting which must be hung so that it is clear of the finished surface.
- Any cracking, discolorations or other defects caused by inadequate protection shall be remedied at the Contractor's expense.

8.3 Uses of Plaster etc.

- The type, mix and thickness of plaster for each location shall be as stated in the Specification or as shown on the Drawings

8.4 **Application of Plaster etc.**

- After preparation of the surfaces the undercoat shall be applied to the required thickness between screeds laid, ruled and plumbed as necessary. When nearly set the surface of the undercoat shall be scratched. The undercoat shall be allowed to set hard and shall be cured. Where plastering is applied in one coat or where rough cast is to be applied the scratching should be omitted.
- The internal plaster (1/2" thick) shall be applied one coat, whereas external plaster (3/4" thick) shall be applied in two coats. The finishing external coat shall be applied after 24 hours to the required thickness and shall be given steel trowel finish.
- The surfaces shall be finished to a true plane to correct line and level, with all angles and corners to a right angle unless otherwise specified, and with walls and reveals plumb and square. The surfaces shall be finished to within ± 3 mm of a straight edge 1.08 m long paced on face of plaster.

8.5 **Smooth Finish**

- Finish with a steel-laying trowel to an even surface.

9.0 **TOLERANCES**

Surfaces of plaster work shall be finished with a true plane to correct line and level with all angle and corners to a right angle unless otherwise specified and with walls and reveals plumb and square.

Maximum permitted tolerances shall not exceed 3mm in 2m variation from plumb or level in any exposed line or surface and 1.5 mm variation between planes of abutting edges or ends.

10.0 **TYROLENE PLASTER (ROUGH CAST PLASTER)**

- i. Tyrolene plaster shall be applied on exterior walls wherever specified and shown on drawings. Prepare plaster surface to receive Tyrolene treatment. Mortar for tyrolene treatment shall be one part of grey and white cement mixture (3 parts grey and 7 parts white cement) to two parts of sand as approved



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by the OGDCL / OGDCL's Representative and shall be applied to wall by machine over ½" rough plaster base mix (1:4). The thickness of Tyrolene shall be a minimum of ¼". The texture of tyrolene plaster shall be upto the entire satisfaction of OGDCL / OGDCL's Representative. Also 6" wide heavy-duty metal lath shall be installed over all joints of masonry and R.C.C. members. On the finished Tyrolene plaster no painting work shall be allowed.

- ii. The Contractor shall prepare samples, for OGDCL / OGDCL's Representative approval, before commencement of work. The work shall be carried out by experienced workmen only, to ensure uniformity of colour and texture and shall match with the approved sample and to the satisfaction of OGDCL / OGDCL's Representative.