



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 ROOFING

PROJECT NO.
14-0258

DOCUMENT NO:

0258 – CA – 7009 – 0



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009
PAGE: 2 of 8
REV: 0
DATE: 6-Jan-2022

C O N T E N T S

<u>SECTION NO.</u>	<u>DESCRIPTION</u>	<u>PAGE NO.</u>
1.0	CORRUGATED GALVANIZED IRON ROOFS	3
2.0	FALSE CELLING	4
3.0	ROOF FINISHES/ WATER-PROOF TREATMENT	6



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009
PAGE: 3 of 8
REV: 0
DATE: 6-Jan-2022

1.0 CORRUGATED GALVANIZED IRON ROOFS

1.1 Materials

1.1.1 Corrugated Galvanized Iron Sheets

All corrugated galvanized iron sheeting shall be of 20 gauge.

1.1.2 Accessories

The following shall be provided for roofing and siding:

- Accessories for Barge Plate, Ridge and Bent Ridge of roofing.
- Accessories for Corner Ridge and Eave Closure of Siding

The shape and dimensions of accessories shall be approved by the OGDCL / OGDCL's Representative.

1.1.3 Fasteners

The following shall be provided:

- Galvanized Iron J-Hooks/Drive screws, nuts and bolts.
- Galvanized diamond shaped washers and sealing washers.

The fasteners listed above shall generally comply with BS. 1494.

1.2 Applications

1.2.1 The corrugated galvanized iron sheets shall be fixed with a minimum of 150 mm end laps and a minimum of one corrugation side laps.

1.2.2 When instructed to have a one corrugation side lap, the sheets shall have a cover of not less than 20mm and all lapped sides shall be turned downwards. Where practicable the exposed lapped sides shall be arranged to face away from the prevailing wind. When instructed to have a one and a half corrugations side lap the sheets shall be arranged alternatively with a cover of not less than 90mm, the first sheet being fixed with the lapped sides turned upwards away from the bearer and the cover sheet with the lapped sides turned downwards.



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009
PAGE: 4 of 8
REV: 0
DATE: 6-Jan-2022

1.2.3 Sheets shall be secured to purlins at centres not exceeding 300mm by galvanized drive screws/J-Hooks 75mm long with galvanized diamond shaped washers and lead sealing washers.

1.2.4 All holes for bolts, drive screws etc shall be punched from the underside of the sheets and shall be on the crown of the corrugations.

1.2.5 Galvanized iron ridge capping shall be fixed to purlins as described above.

2.0 FALSE CEILING

2.1 General

False ceiling shall be installed wherever required / approved by OGDCL / OGDCL's Representative. The installation and fixing of false ceiling and accessories shall be carried out by skilled technicians experienced in this type of work.

2.2 Materials

Materials shall conform to the applicable provisions of BSI- CP.290. Ceiling shall be of the following type or as approved by OGDCL / OGDCL's Representative.

2.2.1 Mineral Fibre Board Type / Aluminum Strip False Ceiling

The ceiling mineral fibre board or Aluminum strip false ceiling shall be of approved manufacturer "DAMPA" or approved equal and of approved textured pattern, size and thickness as per approved shop drawings. The Contractor shall submit the name of the manufacturer alongwith the samples for approval prior to manufacturing.

2.2.2 Hangers

Hangers shall be of 10 SWG G.I. bars. Sample of hanger shall be submitted, to OGDCL / OGDCL'S Representative for approval.

2.2.3 Angles and Tees

Angles and Tees shall be of Anodized Aluminium section of approved pattern as per shop drawings approved by OGDCL / OGDCL's Representative.

2.3 Submittals



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009

PAGE: 5 of 8

REV: 0

DATE: 6-Jan-2022

Shop drawings shall be submitted showing reflected ceiling plan, locations of built-in products and access facilities, dimensions, layout arrangements, hanger locations, structural connection, details of level changes, direction or pattern and panel joint details.

Samples shall be submitted of false ceiling panels, suspension system, and accessories for approval of OGDCL / OGDCL's Representative. Colors will be selected from manufacturer's standard colors.

Catalogue data of standard products and printed installation instructions of the ceiling manufacturer shall be submitted for approval of OGDCL / OGDCL's Representative, well before the commencing of works.

2.4 Product Delivery, Storage and Handling

Cartons shall be stored in the installation area, opened at each end to stabilize moisture content and temperature, for 48 hours prior to installation.

2.5 Jobsite Conditions

Work which will be concealed by false ceilings shall be completed, tested, inspected and accepted before ceiling work is started. False ceiling installation shall not begin until the area has been closed in, and temperature and humidity approximate occupancy conditions. Wet work shall be cured and dry before ceiling work is started.

Surfaces which will support the ceilings, and those to which the ceiling abut, shall be inspected and accepted for completeness and adequacy to receive the ceilings before the work begins.

2.6 Installation and Workmanship

False ceiling suspension system and panels shall be installed in accordance with the requirements of BSI CP.190 and with the manufacturer's recommendations as approved by OGDCL / OGDCL'S Representative.

2.7 Suspension System

The hangers as specified shall be evenly disposed as per shop drawings, details and placed in position as indicated at the time of concrete pour of R.C.C. roofing structure.



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009
PAGE: 6 of 8
REV: 0
DATE: 6-Jan-2022

Their lengths clear of roofing slab shall be as per shop drawing details.

The framing shall be of the specified section and run at spacing as per shop drawings. The jointing of battens to hangers shall be as per approved shop drawings details. The extra framing if required shall be provided for light receptacles/air-conditioning grills as per approved shop drawing details.

Wall angles shall be positively and rigidly connected to the structure and to cross runners.

Tiles shall be installed in the grid system after completion of installation of the suspension, lighting fixtures and ventilating unit.

Forming ceiling panels shall be laid out in pattern including border of uniform width around all sides of each ceiling area. The pattern shall be as per shop drawings approved by OGDCL / OGDCL's Representative.

All panels shall be furnished and installed in a approved manner and as per approved types, sizes and surface design.

2.8 Fixtures

Light fixtures and ventilating units shall be installed in grid pattern shown and supported in accordance with manufacturer's recommendations.

2.9 Finishing

After installation, dirty, soiled or discolored surfaces shall be cleaned and left from defects and ready to receive any painted finish if required.

The panels which are damaged or improperly installed shall be removed and replaced.

3.0 ROOF FINISHES/WATER-PROOF TREATMENT

3.1 Roof Screeding

- i. The specification for "Plain and Reinforced Concrete Works" shall apply to the laying of Class 'C' cement concrete screed 40mm thick with steel trowel finish.
- ii. Concrete screeds for waterproof shall be cured thorough to avoid shrinkage. Any cracks which may appear due to shrinkage are to be made good. Roof



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009
PAGE: 7 of 8
REV: 0
DATE: 6-Jan-2022

screed shall be protected from sunlight using wetted hessian cloths if poured during hot climate.

- iii. All screed shall be laid in bays not exceeding 10 sq. m and form between stop boards of the correct height and cut on each side to indicate the slope required in the roof. A 10 mm side gap is to be left between each screed bay for the full depth of the screed. The gap between the bays shall then be filled in with cold bitumen.

3.2 Insulation (Wherever Required)

The polystyrene insulation for application under the roof finish is to be 50mm expanded polystyrene boarding to BS 3837, Grade SE (self extinguishing of 1.5 lbs/ft³ density). The insulation boards are to be butted together and protected against damage before and when the roof screed is applied.

3.3 Water-Proof Treatment

Any of the following alternates, approved by OGDCL / OGDCL's Representative shall OGDCL / OGDCL's Representative be use for water proofing treatment of Roofs.

3.3.1 Alternate - I

- The concrete surfaces shall first be thoroughly groomed, cleaned, brushed and dried before application of waterproofing treatment.
- Apply Tack Coat of (PB-4) Hot Bitumen Grade (10/20) at the rate of 2.5 kg/m² over roof screed in two coats.
- Sand layer average one inch thick is laid in slope, and penetrated into flood tack of hot bitumen so as to seal the surface properly.
- Finally, precast concrete tiles size 12" × 12" × 1" shall be laid over sand layer, properly jointed with cement sand mortar (1:2 mix).

3.3.2 Alternate - II

- The concrete surfaces shall first be thoroughly groomed, cleaned and dried before application of waterproofing treatment.



OGDC PAKISTAN
KPT-TAY COMPRESSION PROJECT
SPECIFICATION FOR ROOFING

DOC NO: 0258-CA-7009

PAGE: 8 of 8

REV: 0

DATE: 6-Jan-2022

-
- Apply Tack Coat of (PB-4) Hot Bitumen Grade (10/20) at the rate of 2.5 kg/m² over roof screed in two coats.
 - Two ply fibre based bituminized roofing felt shall then be laid over hot bitumen with at least 80 to 100mm lap.
 - Over the felt a flood coat of hot bitumen (30 lbs/100 sft.) to be applied.
 - Pea gravel at one cubic meter/100 square meter in two layers shall be spreaded and penetrated into the flood coat so as to seal the surface properly.
 - Roof finishes item described above shall be performed in a good workmanship, maintaining the final roof slopes shown on the drawings.

3.3.3 Alternate - III

- The concrete surfaces shall first be thoroughly groomed, cleaned and dried before application of water proofing treatment.
- 40 mm thick Class 'C' cement concrete screed shall be laid in slope over RCC slab.
- Apply two flood coat of PB-4 hot bitumen at the rate of 2.5 kg/m² over screed.
- 50mm thick Mud Bhoosa consist of clay mixed with Rice Husk shall be laid over Bitumen coat. Over MUD Bhoosa, clay tiles size 12"×12"×1½" shall be laid with ½" thick joint in between tiles and filled with cement mortar (1:4 mix). Finally two coats of bitumen shall be laid over clay tiles with subsequent spreading of coarse sand layer.

On completion all roofs shall be left water tight and in clean condition before handing over.