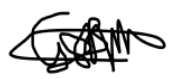


TE-IMS-PEMM ASSET KDS-SPEC 415 Specification

Description: **Specification for repairing and replacing roof sheets, gutters and downpipes, side cladding and installation of office ceiling within Nelspruit locomotive workshops, warehouses and offices.**

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Local Business:	Locomotive			
Location:	Nelspruit			

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1. Scope of Work

This specification requirement covers all the requirements that will be needed to inform the supplier/vendor/manufacture to carry out what is expected from him/her: The contract will be awarded as a turnkey project and the contractor will be responsible for all the work specified.

This specification states the minimum requirements relating to the work and in no way absolves the contractor from responsibility for sound engineering practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering KOEDOESPOORT at tender stage and optional prices for addressing such omissions must be provided.

The Supplier shall supply all the labour, tools, material, equipment, consumables, facilities, testing and supervision required for the supply of the specified equipment at site during erection, pre-commissioning and commissioning activities.

2. Site Inspection

Tenderers must visit the site to familiarize themselves with all the aspects involved relating to the project that must be done. This must be arranged via the Contract Manager. The site inspection certificate will be counter-signed by the Contract Manager on day of the site visit. The tender documents must only be submitted if the site inspection certificate has been signed.

3. Information Required

Tenders shall be in duplicate and will not be considered if full particulars of all relevant equipment and works requested are not submitted at the tender stage, to ensure an objective assessment of the offer can be made. Tenderers shall confirm that the items that they are offering comply at a standard not less than the minimum required requirement asked for in the specifications. Tenderers must comply to these specifications, but alternative offers may, in addition, also be submitted. Such alternative offers must be fully motivated and substantiated.

4. Specific Requirements:

Comply with the Occupational Health and Safety Act (Act85 of 1993), as amended.

Adhere to the Construction Regulations of the Occupational Health and Safety Act (Act85 of 1993), as amended.

The contractor to have SAFETY INDUCTION, and have valid permits when entering Transnet Engineering.

The contractor to have a SAFETY FILE, SITE INSTRUCTION BOOK on site at all times.

All measurements and amounts must be stipulated in quote.

Contractor's name board will at all times be visible.

A supervisor will be on site at all times.

The correct PPE must be worn at all times. (Harnesses ropes, etc.)

During and on completion of the project, there will be SHE inspections and Risk assessments done on the site that the supplier/vendor is working on, which will be reported to the project manager.

Failure to comply will result in a stop certificate being issued and the supplier will be required to leave the site until the situation is rectified.

All scaffolding used to be SANS approved.

All employees who will be working at height to have medical fitness certificate and proof of competency training thereof.

Valid letter of good standing with Workman's Compensation.

Failure to comply will result in a stop certificate being issued and the supplier will be required to leave the site until the situation is rectified.

Comply with Transnet Engineering SHE Specification for contract work Version 02.

5. Technical Requirements:

All equipment and installation whether detailed in this specification or not shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 as amended. Sudden power losses will not have an adverse effect on equipment and shall not unduly delay return to operation after power is restored.

6. Codes of Practice, Regulations & Standards:

The tenderer shall specify which statutory or industry rules will be applied for the equipment to be working successfully and safely and shall indicate the designed life span.

7. Specific Requirements:

	REQUIRED
1.	Scope of work:
1.1	Electrical workshop
1.1.1	Replace all roof sheets, gutters, side cladding, heater boxes connected to downpipes, replace all the heat insulation sheet, and supply and install eight (8) whirly birds on roof at Electrical workshop.
1.1.2	Supply and install ceiling in the offices and repair all roof leaks within offices within Electrical workshop.
1.1.3	Clean and repair/replace all damaged downpipes in workshop in Electrical workshop.
1.1.4	Replace all damaged windows in the workshops, warehouses and offices.
1.1.5	Install flashing on the shedding roof that has been blown by wind.
1.1.6	All the removed roof sheets, gutters and downpipes must be stored in a demarcated area within the depot.
1.1.7	Clean the downpipe discharging channels and ensure that there is no misalignment between the gutters and downpipes.
1.2	Diesel workshop
1.2.1	Repair/replace all gutters and downpipes within the workshop
1.2.2	Replace all damaged windows in the workshops, warehouses and offices
1.2.3	Repair/ replace all leaking roof sheets
1.2.4	Replace all leaking louvre fans and extractor fans on the roof
1.2.5	Replace all gutters and downpipes in the diesel in-service workshop and repair all roof leaks
1.3	Warehouse
1.3.1	Replace all translucent (Clear) roof sheets with new roof sheets similar to the existing corrugated roof sheets.
1.3.2	Replace all gutters and downpipes in the warehouse.
	Establish or ready the site for repairs.
1.3.3	Supply and install side cladding on the sub material store next to compressor house on both sides (North and South).
1.4	Ablution facilities
1.4.1	Replace all damaged floor tiles within two ablution facilities
1.4.2	Repaint the walls within ablution facilities
1.4.3	Replace all damaged shower doors, shower floors and shower heads
1.4.4	Repair/replace all damaged toilet systems (WC pan, seat, seat cover and tissue holders)
1.4.5	Repair/replace all damaged basin and basin mixers
1.7	Testing and commissioning

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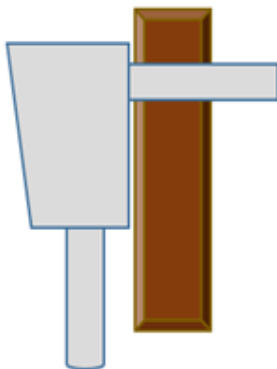
Specification for repairing and replacing roof sheets, gutters and downpipes and installation of office ceiling within Nelspruit locomotive workshops, warehouses and offices.

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	REQUIRED
2	Site Establishment:
2.1	Hiring of all necessary equipment to complete the scope of work.
2.2	The contractor must comply with Transnet Engineering safety procedures
2.3	Site must be cleaned and all rubble must be removed daily.
3	Cleaning Of Gutters and Downpipes:
3.1	Sweep gutters clean of debris. In the area of damage, dry surface and remove any loose coating particles by gently Scraping.
3.2	Remove any zinc salts or rust on exposed galvanised surface by abrasive cleaning using a non-metallic media.
3.3	Wash damaged area with water and washing up liquid, rinse off and dry thoroughly before commencing any repair work.
3.4	Where the membrane is badly scuffed, torn, ripped or damaged exposing the galvanised metal; heat weld a membrane patch to an area covering plus 50mm all around the damaged section.
3.5	For blocked outlets, block the bottom of the downpipe with a rag to stop any debris getting into the drain, then scoop out the leaves and silt from the gutter with a small trowel. Remove the rag, and rinse out the gutter and downpipe with water. To stop the problem recurring, fit a Leaf-Guard cover over the outlet, and a gutter guard over the guttering (just cut it to size and clip it in place). Clean/unblock drain holes at the bottom of downpipes.
3.6	If a PVC downpipe is loose, check to see if one of the clips has lost a connecting bolt. Then replace it with a galvanised bolt of the same size. If this is the case, replace them and refix the screws, or fit new 6.5mm gauge galvanised screws. If a cast iron downpipe is loose, take out the fixing nails or screws and insert wall plugs. Then drive the nails back in or fit galvanised screws.
4.	Replacement of Windows (Diesel workshop, electrical workshop, warehouse and office area)
4.1	Replace all cracked and broken window glass
4.2	Remove putty and glass pains
4.3	Clean working area to be free from putty and glass.

	REQUIRED
4.4	Remove all paint and putty from frames to bare surface.
4.5	Apply water based edge primer to frames inside and outside.
4.6	Apply universal undercoat to window frame inside and outside.
4.7	Apply one coat of enamel paint to outside of frames only
4.8	Apply +/- 5mm to 6mm white watertight silicon sealer around inside of frame insert pane and compress silicon sealer that pane is +/- 2mm away from frame , remove of silicon on outside to a smooth finish.
4.9	No back putty to be applied.
4.10	Normal glazing to be applied on the inside of window frame.
4.11	After glazing is cured on the inside apply single layer universal undercoat and thereafter apply single coat white high gloss enamel.
4.12	Clean of window panes remove excess paint and clean pains using window-cleaning agent.
5.	Repairing of roof leakages
5.1	All roof sheets and gutters that are damaged and causing the roof leaks must be replaced with new roof sheets and gutters similar to the existing ones.
5.2	Apply roof guard/seal on the securing nails of the sheets after roof sheets are replaced.
5.3	Replace the damaged ceiling and cornices
5.4	Replace the damaged door at the store in functional building
6	Installation of whirly birds, gather heather boxes, gutters and new roof sheets on electrical workshop
6.1	Supply & install 8 whirly birds on top of the knock of the roof.
	Size 800. 800 x 970 x 720 mm. as indicated see figure below.

	REQUIRED																																				
	Model and size diagram : <table><thead><tr><th>Size</th><th>A(mm)</th><th>B(mm)</th><th>C(mm)</th></tr></thead><tbody><tr><td>100</td><td>100</td><td>150</td><td>180</td></tr><tr><td>150</td><td>150</td><td>220</td><td>200</td></tr><tr><td>200</td><td>200</td><td>300</td><td>240</td></tr><tr><td>300</td><td>300</td><td>430</td><td>330</td></tr><tr><td>400</td><td>400</td><td>430</td><td>530</td></tr><tr><td>500</td><td>500</td><td>600</td><td>550 500 470</td></tr><tr><td>600</td><td>600</td><td>700</td><td>550 500 470</td></tr><tr><td>800</td><td>800</td><td>970</td><td>720</td></tr></tbody></table>	Size	A(mm)	B(mm)	C(mm)	100	100	150	180	150	150	220	200	200	200	300	240	300	300	430	330	400	400	430	530	500	500	600	550 500 470	600	600	700	550 500 470	800	800	970	720
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6.2	Ensure the whirly birds are installed and properly secured with no water leaks.																																				
6.3	Supply and install 0.5mm FULL HARD CHROMA DECK GREY OF COLOUR ROOF SHEETING and WHITE-FACED THERMAL HEAT ISOLATION 75MM THICK will be installed onto office facility as well. - When sheets and heat insulation are removed off, the new roof sheets and heat insulation will be placed on. - This will take place simultaneously to prevent rain falling inside the workshop or offices.																																				
6.4	Supply & install WHITE FACED THERMAL HEAT ISOLATION 75MM THICK between roof sheeting and roof structure as well as between the side-cladding.																																				
6.5	Supply & install 1mm THICK SEAMLESS CALANIZED GUTTER this gutter must be installed before roof sheeting are installed.																																				
6.6	No down pipes will be fitted in the work shed, only on the outside of the work shed.																																				
6.7	Supply & install new 1mm CALVANIZED RAINWATER GATHER HEATHER BOXES which are fitted between gutter and downpipes at the end of work shed.																																				
6.8	Gather heather boxes to be manufactured to be efficient and the downpipes are 250mm.																																				

	REQUIRED
	Gutter to be lengthen trough the wall And supply & install heather box with 250mm down pipe Secure heather box and down pipe + route down pipe towards Storm water drain 
6.9	Supply and install 250mm diameter PVC downpipes connected to gather heather boxes.
6.10	There must be no miss understanding the gutters will be 1mm thick and galvanized material.
6.11	Downpipes to be routed towards storm water drains.
7	General
7.1	All works completed will carry a 24 months warranty. A water flow test will be conducted for every column repaired.
7.2	Contractor should submit a safety file indicating that he is competent to work on heights with his/her stuff also trained to work on heights.
7.3	All material used to be SANS approved.
7.4	Extra care to be taken when working on heights near electricity overhead lines and the necessary lockout procedures to be followed.
7.5	All gutters and objects lying on the roof to be removed from the roof.
7.6	Area to be cleaned and neat on completion.
7.7	Damage to any existing services shall be repaired by the supplier.
7.8	Rubble to be removed on regular base and be dump at suitable dumping site.
7.9	No metal or material belonging to TE (old fence) shall be removed from the premises. (To be handed over to TE).
8.	Documentation:
8.1	Before any work is performed the supplier must submit a safety file complete with risk assessment to the project manager.
8.2	Certificate of working from heights for all the employees
8.3	Medical certificates for all employees must be included in the safety file.

	REQUIRED
9.	Guarantee:
9.1	The supplier shall guarantee for a period 24 months after successful commissioning of the repaired roofs that all components, plant equipment and material are new and fit for the specific purpose which they are purchased, and free from any defects in design, workmanship and material, and are in strict accordance with the contract, unless otherwise agree in writing.
9.2	The supplier shall agree to replace at his/her cost any defective items discovered within the guaranteed period.
9.3	The supplier shall clearly stipulate the nature of the guarantee and how long it will take their maintenance staff to be on site. Transnet Engineering requires a response time of no more than 24 hours.
9.4	Should the supplier fail, when called upon, to make good or remedy a defect (under guarantee or declared inherent) within a reasonable time, Transnet Engineering may affect the repair and thereafter recover from the supplier all cost and expenses associated with the supplier.

8. References:

Standard operating procedure for specification of contract work.

9. Quality Control:

The contractor shall provide a quality control plan with the tender indicating how quality will be assured.

10. Installation and Commissioning:

A detailed program (project-plan/gantt-chart) shall be submitted with the tender, indicating the main activities and periods necessary up to handover. The bidder shall submit with their tender a detail erection and installation procedure.

The contractor shall be fully responsible for any damage caused to all supplied equipment and to Transnet Engineering's assets during the installation, testing and commissioning. The supplier shall conduct a risk assessment as to identify anything that might hinder the installation of the equipment

11. Guarantee:

The contractor shall guarantee for a period of 24 months after successful commissioning of the repaired roofs and free from any defects in design, workmanship and material, and are in accordance with the Contract, unless otherwise agreed in writing.

The Contractor shall agree to replace at his cost any defective items discovered within the guaranteed period.