



सी एस आई आर - राष्ट्रीय धातुकर्म प्रयोगशाला
CSIR - NATIONAL METALLURGICAL LABORATORY

(वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद) / (Council of Scientific & Industrial Research)

बर्मागान्स, जमशेदपुर- 831007 / BURMAMINES, JAMSHEDPUR - 831 007

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फाइल/File : NML/PUR/32/31/20

दिनांक/Date : 29-01-2021

Corrigendum 1

Ref : 1. NML/PUR/32/31/20 Dated 05-01-2021 for Supply Of PC Control Carbon & Sulfur Determinator.

2. Tender Id: 2021_CSIR_66047_1

Consequent to the Pre- Bid Meeting dated 15.01.2021 with reference to the abovementioned procurement, Competent Authority has approved to issue the Technical corrigendum by revising complete Chapter 4 as detailed below and extension of the last date of bid submission till 17-02-2021, 03:00 PM. Subsequently, bids will be opened on 18-02-2021, 03:00 PM.

Chapter- 4 (Revised)

Annexure-1

| PC control Carbon & Sulfur Determinator | |
|---|--|
| The determinator should be controlled through external PC, which must be operated on Windows 10 based operating system for measurement of Carbon & Sulfur in wide variety of samples like Metals, Aluminum alloys, Copper alloy, Steel, Ferro Alloys, Refractories, and other Inorganic materials in the form of Pins, Cubes, Chips, Granule & Powder. The system based on High Temperature Combustion Technique with Infrared / other suitable detection principle. The equipment should be compatible with external printer for reporting result in hard copy format. The determinator must have the following specification: | |
| Furnace: | The high efficiency furnace must have facility to burn a broader range of sample types. |
| Analysis Range: | Carbon: $\leq 0.00034\%$ to $\geq 6\%$ based on 1gm sample. Sulfur: $\leq 0.00016\%$ to $\geq 1\%$ based on 1gm sample. |
| Precision/Standard deviation (1σ): | Carbon: $\leq 0.00004\%$ or $\leq 0.5\%$ RSD whichever is greater. Sulfur: $\leq 0.00004\%$ or $\leq 0.75\%$ RSD whichever is greater. |
| Document on analysis range and accuracy | Verification of measurement in lower range, may be done using JSS CRM No.: JSS003-7 (high Grade Pure Iron 3) or any other similar CRM/SRM. For higher range any relevant CRM/SRM may be used. |

Anand

कार्य दिवस/Working Days : Monday to Friday (9.15 a.m. to 5.45 p.m.)

एनएम एल जीएसटी आईएन / NML GSTIN : 20AAATC2716R2ZS



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| | |
|---------------------------------|--|
| | Document/Screen shot of 05 analysis done for Carbon & Sulfur in both in lowest & highest range with precision may also be provided. |
| Detector: | The system must incorporate suitable heated and thermally isolated IR cells / other suitable detector for both of gases. |
| Calibrations: | The software must support single, multipoint and blank calibration. There should also be provision for drift correction. |
| Cleaning Mechanism: | The determinator must incorporate inbuilt cleaning mechanism. Needful accessories (like Vacuum Cleaner or similar items if required) should be the part of equipment. |
| Application Software: | Windows 10 based operating software should be provided with following features- <ul style="list-style-type: none">Automated data acquisition capability with weight list, result list and calibration methods.Advanced automatic on-line leak detection system.Reporting facilities.Auto diagnostic facility for error/malfunction.The software must have facility to transpose data from system to excel sheet/LIMS/other server for official work. |
| Operation & Maintenance manuals | Operation & maintenance manuals to be supplied in soft & hard copy along with the machine. |
| PC & Printer | The offer must include required external branded (Business edition) make PC having configuration like "19 inch LED display, Minimum i5, 8th generation processor, 1 TB hard disc, minimum 8 GB RAM, WIN PRO 10. PC should have facility to interface with equipment, balance and printer. Mono LaserJet Printer should also be quoted with offer. Minimum 01 year warranty should also include in offer for both PC & Printer. |
| Warranty: | One-year warranty after successfully installation at NML site. |
| Consumables, reagent & spares | Must quote as mentioned in Annexure 2. |
| Electronic Balance | Top pan Balance having max. capacity: ≥ 50 gm, readability: 0.1 mg and reproducibility: ± 0.1 mg should be quoted. Electronic balance should be interfaced to the analyser / computer for automatic weight transfer. |
| Installation and training | Supplied equipment will be installed and commissioned by vendor at NML site at no extra cost. Operational & Preventive maintenance training must be provided after installation to NML staff at NML site. |
| Installation requirement | NML Scope: NML will provide space ready for equipment installation along with required electrical power supply point. Vendor Scope: Any consumable & chemical required for installation & commissioning of equipment and accessories will be under vendor scope. |

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| AMC rate after warranty | Vendor must quote consecutive 3-year non-comprehensive AMC rate (02 preventive + 1 breakdown visit per year) for equipment after warranty. It will be the part of price evaluation. |
|-------------------------|---|

Annexure 2.

Consumables, Reagent & Spares for PC Control C & S Determinator:

| Sl. No. | Items name | Quantity | Rate | Total Cost |
|---------|---|-----------|------|------------|
| 1 | Accelerator (Tungsten) | 6 Kg | | |
| 2 | Accelerator (Iron) | 3 Kg | | |
| 3 | Accelerator (Tin) | 1 Kg | | |
| 4 | Crucible | 5000 Nos. | | |
| 5 | High Purity Crucible (for ultra-low carbon) | 1000 Nos. | | |
| 6 | Combustion tube | 10 nos. | | |
| 7 | Quartz Wool | 1X100gm | | |
| 8 | O Ring Set (Include all type) | 4X 1 Set | | |
| 9 | Silicon Grease | 1X100gm | | |
| 10 | Reagent Tube | 06 nos. | | |
| 11 | Filter for reagent tube | 12 nos. | | |
| 12 | Metal dust filter for combustion zone | 04 nos. | | |
| 13 | Ceramic crucible stand | 02 nos. | | |

Note: The price comparison of the bid received shall include all the items mentioned in Annexure-1 and Annexure-2 of the technical specification as tendered.

Anand Bhavs
29.01.2021
SPO/60SP

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