



Tender Ref. No.: NSIC/TOOL ROOM/ 2016-17/94 (76)

TENDER DOCUMENT

for

Supply of CNC Tooling

The National Small Industries Corporation Limited
(A Government of India Enterprise)
Okhla Industrial Estate, Phase III
New Delhi-110020

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NOTICE INVITING TENDER

The National Small Industries Corporation Ltd. (NSIC), Okhla, New Delhi invites sealed tender in Two bid system (Technical & Commercial bid in two separate envelopes) from eligible and qualified Original Equipment Manufacturers / Authorized Distributors of OEM / Authorized Dealers of OEM for the **Supply of CNC Tooling**.

The details are summarized below:-

| | | |
|----|--|---|
| a) | Tender number | Reference number for inviting bids through this tender is NSIC/TOOL ROOM/2016-17/94 (76) |
| b) | Purchaser | The National Small Industries Corporation Ltd. which is a Government of India Enterprise under the Ministry of Micro, Small & Medium Enterprises. |
| c) | Usage of Tooling | The purchaser would place the tooling in their educational training centre and shall be utilized for imparting skill and entrepreneurship development training. |
| d) | Scope of Tender | Supply of CNC Tooling |
| e) | Specification/ Details of Tooling | The detailed specifications of CNC Tooling are specified in tender and placed at Annexure-A |
| f) | Web page for details of tender | Web page: http://www.nsic.co.in/tenders.asp The prospective bidders are advised to remain in touch with the website for any update in respect of this tender. |
| g) | Locations of supplies | The CNC Tooling (s) is/are proposed to be supplied at NSIC Technical Services Centers at New Delhi (Delhi). It may be noted that the Chief General Manager of NSIC have full rights to cancel the supply while placing the supply order to selected bidder. The reason for cancellation of supply would not be disclosed. |
| h) | Earnest Money Deposit (EMD) along with Tender | EMD of Rs. 71,250/- (Rupees Seventy One Thousand Two Hundred and Fifty Only) shall be submitted in the form of D.D. in favour of ' NSIC Ltd.-NTSC A/c ' payable at New Delhi and to be placed in the Technical Bid envelope while submitting the tender. |
| i) | Exemption from the payment of EMD and Tender fee | The exemption for the payment of EMD as well as tender fee will be applicable to the Udyog Aadhaar/ NSIC/ District Industry Centre registered units for the goods for which the said tender floated. |
| j) | Cost of Tender Documents | The tender document can be collected from the office of the Chief General Manager, NSIC Technical Services Centre, Okhla Industrial Estate, New Delhi in between the period from 21st, September 2017 to 6th, October 2017 (except Saturday & Sunday) between 10:30 hours to 15:45 hours against payment of Rs. 1,180/- (Rupees Thousand One Hundred and Eighty) (Non-refundable, Inclusive of GST) by way of demand |

| | | |
|----|--|---|
| | | draft, in favour of ' NSIC Ltd.-NTSC A/c ' payable at New Delhi. Alternatively tender form can be downloaded from our website www.nsic.co.in from 21st, September 2017 to 6th, October 2017 . In case the tender downloaded for submission of offer, the tender fee of Rs. 1,180/-(Rupees Thousand One Hundred and Eighty) (Non-refundable, Inclusive of GST) in form of demand draft in favour of ' NSIC Ltd.-NTSC A/c ' payable at New Delhi shall be enclosed with Technical Bid of the tender while submitting the tender. |
| k) | Last date of submission of tender | Tender must be delivered to the address below on or before 6th, October 2017 up to 15.45 hours. Late bids will be rejected. The Chief General Manager, NSIC- Technical Services Centre, Okhla Industrial Estate, New Delhi-110020 |
| l) | Date of opening of Technical Bid (Envelope-1) | The technical bid for the tender shall be opened on 6th, October 2017 at 16:45 hours at the address as under: The Chief General Manager, NSIC- Technical Services Centre, Okhla Industrial Estate, New Delhi-110020 |
| m) | Date of opening of Commercial Bid (Envelope-2) | The date for opening second envelope containing Commercial Bid will be intimated to the qualified bidders separately. |

Note: In case of any further details required, the same can be collected from the office of the Chief General Manager, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi from **21st, September 2017 to 6th, October 2017** (except Saturday & Sunday) between 10:30 hours to 15:45 hours.

Chief General Manager
NSIC- Technical Services Centre
New Delhi

INSTRUCTIONS TO THE TENDERERS

The Tender shall be submitted in accordance with these instructions, as under.

1. Abbreviations:

Throughout this tender documents", the word/ term:

- a) "NTSC" means NSIC-Technical Services Centre
- b) "NSIC" means The National Small Industries Corporation Ltd.
- c) "day" means Calendar day
- d) "working day" means Monday to Friday in week
- e) "tender" means tender number NSIC/ TOOL ROOM/ 2016-17/94 (76)
- f) "tooling" means CNC tooling as detailed at Annexure-A.
- g) If context so requires, "singular" means "plural" and vice versa.
- h) "EMD" means Earnest Money Deposit.
- i) "Purchaser" means The National Small Industries Corporation Ltd
- j) "Bid" means the document and financial details submitted by bidder.
- k) "Bidder" means the eligible and qualified Original Equipment Manufacturers / Authorized Distributors/ Authorized Dealers.
- l) "Tenderer" means the eligible and qualified Original Equipment Manufacturers / Authorized Distributors/ Authorized Dealers.
- m)"OEM" means Original Equipment Manufacturer

2. Eligible Bidder:

- a) The intending Bidder, in case of Original Equipment manufacturers shall submit a self-declaration on their letter-head, along with the Technical Bid, confirming that they are regular in manufacturing & supplying the similar Tooling(s), as asked in this tender, for the last Ten (10) years.
- b) The intending Bidder, in case of Authorized Distributor of OEM / Authorized Dealer of OEM shall possess valid authorized Distributorship / Dealership license from Original Equipment Manufacturers who shall be engaged in regular manufacturing and supply of similar Tooling for the last ten (10) years. The Bidder shall enclose the copy of the same in Technical bid while submitting the tender.

3. Location of supplies:

- a) The details of locations where the Tooling(s) supplied through this tender are as under:

| # | Location | Address for supplies |
|---|-----------|--|
| 1 | New Delhi | NSIC- Technical Services Centre, Okhla Industrial Estate, New Delhi-110020 |

- b) The bidder is free to inspect the location(s) in the premises before submitting the bid under this tender.
- c) It may be noted that the Chief General Manager, NTSC Okhla has full rights to cancel the supply even after calling the offers from bidders but before the issue of supply order to execute the supply by the bidder. The reason for cancellation of supply would not be disclosed.

4. Scope of Supplies:

- a) The Tooling shall be supplied in compliance to the specifications mentioned in Annexure- A of the tender.
- b) The specifications of the tooling as mentioned in the Annexure-A are the requirements of tender, however higher specifications of tooling may be considered subject to their cost economics i.e. competitiveness in financial terms.
- c) After the supply of material as mentioned in the Annexure A, the bidder has to demonstrate about the supplied items at designated site. No extra cost shall be paid for this reason.

5. Delivery

- a) The purchaser interested for complete delivery of tooling by the bidder within thirty (30) calendar days from the date of issue of supply order. However, the bidders have an option to submit the best delivery time, but in any case the delivery should be before 45 days from the date of issue of supply order by purchaser.
- b) Tooling shall be inspected on receipt at site and bidder shall be responsible for any damage during transit of Tooling.
- c) The bidder shall not arrange part shipments and/or trans-shipments without the permission of purchaser. The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/Installation & Commissioning shall be obtained by the bidder in his own name and not in the name of purchaser. The purchaser will as soon as possible but not later than 30 days from the date of arrival of goods at destination shall notify the bidder of any loss or damage to the goods.

6. Catalogue:

The bidder to supply three (03) sets of the catalogue in hard format along with tooling.

7. Tender documents:

- a) The tender document can be collected from the office of the Chief General Manager, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi in between the period from **21st, September 2017** to **6th, October 2017** (except Saturday & Sunday) between 10:30 hours to 15:45 hours against payment of Rs. 1,180/- (Rupees Thousand One Hundred and Eighty) (Non-refundable, Inclusive of GST)) by way of demand draft, in favour of '**NSIC Ltd.-NTSC A/c**' payable at New Delhi.

Alternatively tender form can be downloaded from our website www.nsic.co.in from **21st, September 2017** to **6th, October 2017**. In case the tender downloaded for submission of offer, the tender fee of Rs. 1,180/- in form of

demand draft in favour of '**NSIC Ltd.-NTSC A/c**' payable at New Delhi shall be enclosed with Technical Bid of the tender while submitting the tender.

The other option is to pay Rs. 1,180 by RTGS/NEFT to the bank of purchaser as detailed under:

| ACCOUNT NAME | BANK NAME | BANK A/C NO. | BANK IFSC CODE |
|------------------------|---|------------------|----------------|
| NSIC LTD.- NTSC A/C | PUNJAB NATIONAL BANK, OKHLA, NEW DELHI | 0602002100009880 | PUNB0060200 |

The bidder is requested to attach the Bank Statement / RTGS Slip in the Technical Bid, to prove the transfer of payment to the purchaser's Account.

- b) At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addendum. The prospective bidders are advised to remain in touch with the Website for any update in respect of this tender.

8. Authorization for Submission of Tender:

- a) The original and all copies of the bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The written confirmation of authorization (in form of letter on the bidder's letter head) to sign on behalf of the bidder confirming the signature as a person duly authorized to sign should be attached with the technical bid of the tender.
- b) The person signing the tender form or any other documents on behalf of the Bidder shall be deemed to warrant that he has authority to bind the Bidder. If it subsequently comes to light that the person so signed had no authority to do so, the purchaser may without prejudice to any other civil & criminal remedies, cancel the tender and hold the Bidder liable for all costs, charges and damages.

9. Earnest Money & Tender Fees Deposit:

- a) The EMD shall be submitted in the first envelope super-scribed as "Technical Bid", of prescribed amount by way of Demand Draft drawn in favour of "NSIC Ltd.-NTSC A/c", only for the Tooling(s) quoted by the Bidder. No cash towards EMD shall be accepted. The offers without EMD from the Bidders shall be rejected.
- b) In case tender documents downloaded from website, Tender Fee of Rs. 1,180/- shall be submitted by way of D.D. drawn in favour of 'NSIC-Ltd-NTSC A/c' along with the Technical Bid of the tender documents. Tender fee is non-refundable. The option for payment by RTGS/NEFT is also available and bank details of purchaser, are as under:

| ACCOUNT NAME | BANK NAME | BANK A/C NO. | BANK IFSC CODE |
|------------------------|---|------------------|----------------|
| NSIC LTD.- NTSC A/C | PUNJAB NATIONAL BANK, OKHLA, NEW DELHI | 0602002100009880 | PUNB0060200 |

The bidder is requested to attach the Bank Statement / RTGS Slip in the Technical Bid, to prove the transfer of payment to the purchaser's Account.

- c) EMD and tender Fee submission is exempted for the bidders those having valid registration under Udyog Aadhaar, Single Point Registration Scheme of NSIC and

all micro and small enterprises registered with Director of Industries from DIC for the Tooling for which this is tender issued. To support this, the self-certified scan copy of such valid registration/ exemption certificate is to be attached with technical bid.

- d) The Purchaser shall not be liable for payment of any interest on EMD.
- e) Any request by the bidders to consider their EMD already furnished by them to any of the other office of the purchaser, for any other contract/ tender will not be considered as EMD for this tender.
- f) The EMD will be returned to the unsuccessful bidders soon after the orders are placed on the successful bidder. In case of successful bidder, the EMD will be returned along with 10% payment as per payment terms mentioned at Para 23 of Instructions to the Tenderers.

10. Special Provision for Micro & Small Enterprises:-

Micro and Small Enterprises (MSEs) participating in the tender will be given benefit as per Public Procurement Policy, 2012. Further, the MSEs owned by SC/ST entrepreneurs will also be given benefits as per Public Procurement Policy, 2012. The definition of MSEs owned by SC/ST is as given under:

- (a) In case of proprietary MSE. Proprietor shall be SC/ST
- (b) In case of partnership MSE, the SC/ST partners shall be holding at least 51% shares in the unit
- (c) In case of Private Limited Companies, at least 51% share shall be held by SC/ST promoters.

Document to claim benefits shall be enclosed in Technical Bid.

11. Submission of Tender:

- a) The bidder to examine all instructions, forms, terms and specifications in the tender documents and to furnish with its bid all documents or information as required by bidding document.
- b) The language for all the correspondence and documents related to the tender shall be in English/ Hindi only. Moreover, the printed literature/technical details for the Tooling shall also be in English/ Hindi.
- c) The tender must be placed in a properly sealed bigger envelope addressed to The Chief General Manager, NSIC-Technical Services Centre, Okhla Industrial Estate, Phase III, New Delhi and the said bigger envelope shall contain two sealed envelopes containing Technical & Commercial bids. The bigger envelope must be super-scribed "Tender for Supply of CNC Tooling" with tender inquiry number and its due date. The two sealed envelopes inside the bigger envelope must be super-scribed as:

Envelope No-1: The said envelope is for technical bid & shall be super-scribed as "Tender for the Supply of CNC Tooling-Technical Bid"

Envelope No-2: The said envelope is for commercial bid & shall be super-scribed as "Tender for the Supply of CNC Tooling-Commercial Bid".

- d) If both or either of the envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

- e) All the columns of the tender shall be duly, properly and exhaustively filled in. Any cutting/over writing etc. in the tender must be signed by the person who is signing the tender.
- f) Tenders received in open covers/ letters/ fax/ email will not be considered.

12. Financial Bid Submission:

- a) Bidder shall take into account of all costs including Packing, Freight, Transportation Cost with included unloading of Tooling at the location of the purchaser for giving delivery of material at site(s) as detailed at Para 3 of "Instructions to the Tenderer" before quoting the "Price of Tooling before Taxes & Duties" in the Commercial Bid.
- b) The "Price of Tooling before Taxes & Duties" shall remain firm & inclusive of all costs involved for the delivery to the destination(s).
- c) No extra payment or revision of "Price of Tooling before Taxes & Duties" shall be accepted on account of any discrepancy in nomenclature of items. The Bidder is advised to seek clarification, if any, desired before submitting the tender.
- d) No representation for the revision of the quoted "Price of Tooling before Taxes & Duties" shall be considered till the supplies are completed to the designated location(s).

13. Last date of submission of Tender:

- a) The tender should reach the office of the Chief General Manager, NSIC-Technical Services Centre, Okhla Industrial Estate, New Delhi by 6th, October 2017 up to 15.45 hours.
- b) The purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Tender Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended. The prospective bidders are advised to remain in touch with website for any update in respect of their tender.
- c) The purchaser shall not consider any bid that arrives after the deadline for submission of bids. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected and returned unopened to the Bidder.

14. Opening of Technical Bid:

- a) The technical bid of tenders will be opened at NTSC-Okhla on 6th, October 2017 at 16:45 Hours. The Bidder or their authorized representative (One person only) may be present at the time of opening of the tender.

15. Opening of Commercial Bid:

- a) The Commercial Bid of only technically qualified bidders will be opened on the stipulated due date. The date & time for opening of Commercial Bid shall be intimated to the technically qualified bidders through email, after the evaluation of Technical Bid.

16. Validity of Tender:

- a) The tender shall be valid for a period of 90 days from the date of opening of the Technical Bid of tender. Terms and financial details submitted in the bid shall be treated as firm during the said period of 90 days.
- b) In exceptional circumstances, prior to the expiry of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

17. Evaluation of Bids:

- a) If there is discrepancy between the amount quoted in Commercial Bid in the column "Unit Price of Tooling before Taxes & Duties" and the amount reflected in column "Total price of Tooling before Taxes & Duties" which is the multiplication of quantity offered for supplies with "Unit Price of Tooling before Taxes & Duties", the "Unit Price of Tooling before Taxes & Duties" shall prevail. Accordingly the Total price of Tooling before Taxes & Duties shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected.
- b) If there is an error in a total corresponding to the addition or subtraction of sub totals, the subtotals shall prevail and the total shall be corrected; and
- c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- d) To assist in the examination, evaluation, comparison of the bids and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing only.
- e) If the Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.
- f) The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to supply order, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically Bid document, EMD deposits shall be promptly returned to the Bidders.
- g) The bidder shall note that they are not supposed to put any Taxes & Duties amount in the Commercial Bid. However, after the supplies, they have to issue the invoice indicating the Price of Tooling as quoted in the Commercial Offer and thereafter specify the Taxes as applicable at the time of delivery. The Purchaser shall pay

total amount which includes the unit price of tooling as well as the taxes and duties as applicable at the time of delivery.

- h) The Purchaser is authorize to ask the evidence from bidder to counter-check that the taxes & duties as claimed by the bidder at the time of issue of invoice after the supply of tooling.
- i) At the time the contract is awarded, the purchaser may increase or decrease the quantity of Tooling without any change in the unit price or other terms & conditions of the bid and the Bidding Document subject to the acceptance of bidder in writing for the same.
- j) The purchaser have right to verify the particulars furnished by the bidder independently.

18. Earnest Money Forfeit:

- a) If any Bidder withdraws his tender before the period of 90 days from the date opening of technical bid or makes any modifications in the terms and the conditions of the tender which are not acceptable to the purchaser, then the purchaser shall, without prejudice to any other rights or remedy, be at liberty to forfeit the EMD.
- b) The EMD will also be forfeited in following cases:
 - i.If the bidder fails to accept the order based on his offer (bid) and within the prescribed time.
 - ii. If the bidder fails to supply the tooling with specifications as mentioned in Annexure -A
 - iii. If the bidder delays supplies beyond a reasonable time resulting in disruption of project.
 - iv.Bidder for any reason whatsoever withdraws the tender after it is accepted or become unable or fails to execute the orders within stipulated delivery period.
 - v.Submission of misleading/contradictory/false statement or information and fabricated/invalid documents is detected before or after the issue of order to execute the supplies.
 - vi.The successful bidder does not submit Indemnity Bond within the prescribed time.

19. Notification of Award:

Prior to the expiry of the period of bid validity, the purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter shall specify the sum that the Purchaser will pay to the bidder in consideration of the supply of tooling with the details of selected location(s).

20. Packing:

- a) The bidder shall provide packing of the material, as is required to prevent their damages or deterioration during the transit to their final destination. The packing shall be sufficient to withstand, without limitation, rough handling during transit. In case the consignment received with damaged packaging, the purchaser would not accept the delivery.

- b) The material shall be securely boxed, crated and protected from mechanical damage, moisture etc. suitable for both storage and transit according to the nature of the material and mode of transport. The bidder shall be responsible for any loss/damage to material during transportation to the designated location.

21. Delivery Time:

- a) The bidder shall indicate the period within which the ordered quantity will be supplied. The bidder shall note that in case bidder fails to supply within the period of delivery indicated by the bidder in technical bid of this tender, penalty @1% of value of the order per week of delay would be levied subject to maximum 4 weeks. It means, the bidder shall have the liability of delayed supply to the maximum of 4 weeks after expiry of scheduled delivery date. After that the supply order shall be cancelled and EMD will be forfeited and bidder will be debarred from participation in any future tenders.
- b) The successful Bidder shall, within a week from the date of receipt of communication of acceptance of quotes from purchaser shall intimate his acceptance of the order. The successful bidder shall complete supplies strictly as per the accepted delivery period.

22. Payment:

- a) The 90% payment of total bill will be made by the purchaser by crossed account payee cheque/RTGS/NEFT for which the bidder shall send bills in duplicate (original + copy) after Supply of Tooling, giving reference no of the PO along with copies of delivery note of Tooling from designated purchaser department. The details about the designated purchaser department who is authorized to take the delivery of Tooling(s) shall be informed to the successful bidder through the supply order placed for the supply of Tooling(s).
- b) 10% payment of tooling of total bill along with EMD deposit will be released to bidder after one month from the date of supply of Tooling at site.

23. Causes of Rejection of Tender:

- a) While submitting the tender, if any of the prescribed conditions are not fulfilled or are incomplete in any form, the tender is liable to be rejected.
- b) If any Bidder stipulates any condition of his own, such conditional tender is liable to be rejected.

24. Claims:

- a) If the material supplied are found to be off size and shape different than those in the accepted offer and are of specifications lower than those stipulated in the accepted offer, the purchaser shall have right to totally reject the tooling/equipment and/or to claim for compensation from bidder. The bidder shall reimburse to purchaser, the claim lodged in writing within 15 (fifteen) days of its demand. The bidder shall also compensate for losses, if any, sustained by purchaser due to defective packing and/or wrong marking of the tooling/equipment.
- b) The bidder shall be responsible for arranging the rejected Tooling/ accessories to be removed at his cost from purchaser premises.

25. Address for communication:

All the communication with respect to the tender shall be addressed to:

The Chief General Manager,
NSIC- Technical Services Centre,
Okhla Industrial Estate, New Delhi-110020

26. Force Majeure:

In the event of any unforeseen circumstances directly interfering with the supply of goods/work/service arising during the execution of order such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, earthquakes, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the Bidder shall, within a week from the commencement thereof, notify the same in writing to the Purchaser with reasonable evidence thereof. Either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days "notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other.

27. Code of Ethics:

The Purchaser as well as the Bidder shall observe the highest standard of ethics including laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988", during the procurement or execution of such contracts. If the bidders are found in Bid pooling or against law against fraud and corruption then their firms may be blacklisted.

28. Jurisdiction:

In the event of any dispute the legal matter shall be subjected to the jurisdiction of Delhi Court only.

We confirm with our acceptance to the instructions (S. No. 1 to 28 above) as given above.

BIDDER'S NAME & SIGNATURE WITH SEAL

These duly signed "Instructions to the Tenders" as under shall be attached with technical bid of the tender as a mark of acceptance of bidder and any tender not confirming the instructions as under is liable to be rejected.

ANNEXURE-A

Details of requirements and technical specifications of tooling

Name of the Item: CNC Tooling (1 Set)

| Sr No | Description | Specification | Qty (Nos.) |
|---------------|--|--|------------|
| Item1 | Face Milling Cutter Dia 80 mm with inserts and holder | | |
| 1.1 | Face Milling Cutter Dia 80 mm | Tool cutting edge angle -45 degree | 6 |
| | | Cutting diameter -80 mm | |
| | | No of inserts - 6 | |
| | | Depth of cut maximum - 6 mm | |
| | | Hand - Right | |
| | | Adaptive interface machine direction Arbor -ISO 6462 -A (hexagon socket head cap screw) - metric: 27 | |
| | | Cutting pitch differential , Body material code - Steel | |
| 1.2 | Inserts | Inscribed Circle Diameter - 13 mm | 500 |
| | | Insert shape code - S | |
| | | Cutting edge effective length - 8.8 mm | |
| | | Wiper edge length - 2 mm | |
| | | Corner radius - 0.8 mm | |
| | | Major cutting edge angle - 45 deg | |
| | | Hand - Right | |
| | | Coating - CVD Ti (C, N) + Al2O3 + TiN | |
| | | Insert thickness - 5.6 mm | |
| 1.3 | Suitable Basic Holder BT 40 to face mill arbor dia 27 mm | Adaptive interface Work piece direction Arbor -ISO 6462 -A/B (center bolt/washer) -metric: 27 | 6 |
| | | Connection retention knob thread size M16 | |
| | | Connection diameter - 27 mm | |
| | | Functional length - 100 mm | |
| | | Body material code - Steel | |
| Item 2 | Shoulder milling cutter Dia 50 mm with inserts and holder | | |
| 2.1 | Shoulder milling cutter dia 50 mm | Cutting diameter - 50 mm | 5 |
| | | No of inserts - 5 | |
| | | Depth of cut maximum - 10 mm | |
| | | Maximum ramping angle - 1.4 deg | |
| | | Cutting pitch differential | |
| | | Adaptive interface machine direction Arbor -ISO 6462 -A (hexagon socket head cap screw) - metric: 22 | |
| | | Hand - Right | |
| | | Connection diameter - 22 mm | |
| | | Functional length - 40 mm | |
| | | Body material code - Steel | |

| | | | |
|---------------|---|--|-----|
| 2.2 | Inserts | Insert width - 6.8 mm | 500 |
| | | Cutting edge effective length - 10 mm | |
| | | Wiper edge length - 1.2 mm | |
| | | Corner radius - 0.8 mm | |
| | | Major cutting edge angle - 90 deg | |
| | | Hand - Right | |
| | | Coating - CVD Ti (C, N) + Al2O3 + TiN | |
| | | Insert thickness - 3.59 mm ; insert code : AP | |
| 2.3 | Suitable Basic Holder BT 40 to face mill arbor dia 22 mm | Adaptive interface work piece direction Arbor -ISO 6462 -A/B (center bolt/washer) -metric: 27 | 5 |
| | | Connection retention knob thread size - M16 | |
| | | Connection diameter - 22 mm | |
| | | Functional length - 100 mm | |
| | | Body material code - Steel | |
| Item 3 | Shoulder milling cutter dia 32 mm, long 192 mm with inserts and holder | | |
| 3.1 | Shoulder milling cutter dia 32 mm long 192 mm | Cutting diameter - 32 mm | 5 |
| | | No of inserts - 2 | |
| | | Depth of cut maximum - 10 mm | |
| | | Maximum ramping angle - 5.5 deg | |
| | | Usable length - 192 mm | |
| | | Cutting pitch differential -true | |
| | | Hand - Right | |
| | | Damping property - True | |
| | | Connection diameter - 50 mm | |
| | | Functional length - 217 mm | |
| | | Body material code - Steel | |
| 3.2 | Inserts | Insert width - 6.8 mm | 500 |
| | | Insert shape code - AP | |
| | | Cutting edge effective length - 10 mm | |
| | | Wiper edge length - 1.2 mm | |
| | | Corner radius - 0.8 mm | |
| | | Major cutting edge angle - 90 deg | |
| | | Hand - Right | |
| | | Coating - PVD (Ti,Al)N2 | |
| | | Insert thickness - 3.59 mm | |
| 3.3 | Basic Holder BT-40 side lock adaptor | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 |
| | | Connection retention knob thread size M16 | |
| | | Connection diameter - 50 mm | |
| | | Functional length - 90 mm | |
| | | Body material code – Steel | |

| Item 4 High Feed Milling Cutter Dia. 25 mm with inserts and holder | | | |
|---|---|---|-----|
| 4.1 | High Feed Milling Cutter Dia 25 mm | Tool cutting edge angle - 10 deg | 5 |
| | | Cutting diameter - 10.9 mm | |
| | | Maximum cutting diameter - 25 mm | |
| | | No of inserts - 2 | |
| | | Maximum ramping angle - 14.5 deg | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 20.0 | |
| | | Hand - Right | |
| | | Connection diameter - 20 mm | |
| | | Functional length - 180 mm | |
| | | Body material code - Steel | |
| 4.2 | Inserts | Inscribed circle diameter - 9.5 mm | 500 |
| | | Insert shape code - S | |
| | | Cutting edge effective length - 5.77 mm | |
| | | Wiper edge length - 0.66 mm | |
| | | Corner radius - 1.4 mm | |
| | | Major cutting edge angle - 10 deg | |
| | | Hand - Neutral | |
| | | Coating - CVD Ti(C,N)+Al ₂ O ₃ +TiN | |
| Insert thickness - 4.5 mm | | | |
| 4.3 | Basic Holder BT-40 to Side Lock Dia 20 mm | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 |
| | | Adaptive interface workpiece direction Cylindrical clamping (ISO9766 drill shank) -metric: 20 | |
| | | Connection retention knob thread size M16 | |
| | | Connection diameter 20 mm | |
| | | Functional length - 75 mm | |
| | | Body material code – Steel | |
| Item 5 Round Milling Cutter Dia 20 mm with inserts and holder | | | |
| 5.1 | Round Milling Cutter Dia 20 mm | Cutting diameter - 20 mm | 5 |
| | | Maximum cutting diameter - 32 mm | |
| | | No of inserts - 2 | |
| | | Depth of cut maximum - 9 mm | |
| | | Maximum ramping angle - 12 deg | |
| | | Cutting pitch differential - true | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 25.0 | |
| | | Hand - Right | |
| | | Connection diameter - 25 mm | |
| | | Connection diameter tolerance - h7 | |
| | | Functional length - 190 mm | |
| | | Body material code - Steel | |

| | | | |
|---------------|--|--|-----|
| 5.2 | Inserts | Inscribed circle diameter - 12 mm | 500 |
| | | Insert shape code - R | |
| | | Corner radius - 6 mm | |
| | | Hand - Neutral | |
| | | Coating - PVD (Ti,Al)N | |
| | | Insert thickness - 3.969 mm | |
| 5.3 | Basic Holder BT-40 to Side Lock Dia 25 mm | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 |
| | | Adaptive interface workpiece direction Cylindrical clamping (ISO9766 drill shank) -metric: 25 | |
| | | Connection retention knob thread size M16 | |
| | | Connection diameter 25 mm | |
| | | Functional length - 80 mm | |
| | | Body material code – Steel | |
| Item 6 | Round Milling Cutter Dia 50 mm with inserts | | |
| 6.1 | Round Milling Cutter Dia 50 mm | Cutting diameter - 50 mm | 3 |
| | | Maximum cutting diameter - 40 mm | |
| | | No of inserts - 4 | |
| | | Depth of cut maximum - 9 mm | |
| | | Maximum ramping angle - 12 deg | |
| | | Cutting pitch differential - true | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 25.0 | |
| | | Hand - Right | |
| | | Connection diameter - 50 mm | |
| | | Connection diameter tolerance - h7 | |
| | | Body material code - Steel | |
| 6.2 | Inserts | Inscribed circle diameter - 12 mm | 500 |
| | | Insert shape code - R | |
| | | Corner radius - 6 mm | |
| | | Hand - Neutral | |
| | | Coating - PVD (Ti,Al)N | |
| | | Insert thickness - 3.969 mm | |
| Item 7 | Solid Carbide End mill | | |
| 7.1 | Solid Carbide Endmill Dia 16 mm | Cutting diameter -16 mm | 20 |
| | | Peripheral effective cutting edge count -4 | |
| | | Connection diameter tolerance - h6 | |
| | | Coating - PVD TiAlN | |
| | | Connection diameter - 16 mm | |
| | | Max ramping angle - 5 deg | |
| | | Flute helix angle - 50 deg | |
| | | Cutting material hardness ≤ 48 HRC | |

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|---------------|----------------------------------|---|----|
| 7.2 | Solid Carbide Endmill Dia 12 mm | Cutting diameter -12 mm | 20 |
| | | Peripheral effective cutting edge count -4 | |
| | | Connection diameter tolerance - h6 | |
| | | Coating - PVD TiAlN | |
| | | Connection diameter - 12 mm | |
| | | Max ramping angle - 5 deg | |
| | | Flute helix angle - 50 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| 7.3 | Solid Carbide Endmill Dia 10 mm | Cutting diameter -10 mm | 20 |
| | | Peripheral effective cutting edge count -4 | |
| | | Connection diameter tolerance - h6 | |
| | | Coating - PVD (Ti,Al)N2 | |
| | | Connection diameter - 10 mm | |
| | | Max ramping angle - 5 deg | |
| | | Flute helix angle - 50 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| 7.4 | Solid Carbide Endmill Dia 8 mm | Cutting diameter -8 mm | 20 |
| | | Peripheral effective cutting edge count -4 | |
| | | Connection diameter tolerance - h6 | |
| | | Coating - PVD TiAlN | |
| | | Connection diameter - 8 mm | |
| | | Max ramping angle - 5 deg | |
| | | Flute helix angle - 50 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| 7.4 | Solid Carbide Endmill Dia 20 mm | Cutting diameter -20 mm | 20 |
| | | Peripheral effective cutting edge count -4 | |
| | | Connection diameter tolerance - h6 | |
| | | Coating - PVD TiAlN | |
| | | Connection diameter - 20 mm | |
| | | Max ramping angle - 5 deg | |
| | | Flute helix angle - 50 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| Item 8 | Solid Carbide Ball Nose | | |
| 8.1 | Solid Carbide Ball Nose Dia 3 mm | Cutting diameter - 3 mm | 20 |
| | | Corner radius - 1.5 mm | |
| | | Maximum ramping angle -15 deg | |
| | | Flute helix angle - 30 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| | | Peripheral effective cutting edge count - 2 | |
| | | Adaptive interface machine direction | |
| | | Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 3 | |
| | | Coating -PVD AlCrN | |
| | | Functional length - 38 mm | |
| | | Connection diameter - 3 mm | |

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| 8.2 | Solid Carbide Ball Nose Dia 4 mm | Cutting diameter - 4 mm | 20 |
| | | Corner radius - 2 mm | |
| | | Maximum ramping angle -15 deg | |
| | | Flute helix angle - 30 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| | | Peripheral effective cutting edge count - 2 | |
| | | Adaptive interface machine direction Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 4 | |
| | | Coating -PVD AlCrN | |
| | | Functional length - 57 mm | |
| | | Connection diameter - 6 mm | |
| 8.3 | Solid Carbide Ball Nose Dia 6 mm | Cutting diameter - 6 mm | 20 |
| | | Corner radius - 3 mm | |
| | | Maximum ramping angle -15 deg | |
| | | Flute helix angle - 30 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| | | Peripheral effective cutting edge count - 2 | |
| | | Adaptive interface machine direction Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 6 | |
| | | Coating -PVD AlCrN | |
| | | Functional length - 57 mm | |
| | | Connection diameter - 6 mm | |
| 8.4 | Solid Carbide Ball Nose Dia 8 mm | Cutting diameter -8 mm | 20 |
| | | Corner radius - 4 mm | |
| | | Maximum ramping angle -15 deg | |
| | | Flute helix angle - 30 deg | |
| | | Cutting material hardness \leq 48 HRC | |
| | | Peripheral effective cutting edge count - 2 | |
| | | Adaptive interface machine direction Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 8 , | |
| | | Coating -PVD AlCrN | |
| | | Functional length - 63 mm | |
| | | Connection diameter - 8 mm | |

| Item 9 Solid Carbide Drill with M/c Tap | | | |
|---|--|--------------------------------|---------|
| 9.1 | Solid Carbide Drill Dia 4.2mm for M5 & 5mm for M6 | Cutting diameter – 4.2 & 5 mm | 20 each |
| | | Achievable hole tolerance - H9 | |
| | | Coating - PVD (Ti,Al)N | |
| | | Connection diameter – 5 & 6 mm | |
| | | Point angle - 140 deg | |
| | | Overall length - 60 & 66 mm | |
| 9.2 | Tap M5 & M6 | Thread diameter size – M5 & M6 | 20 each |
| | | Thread pitch – 0.8 & 1 mm | |
| | | Thread tolerance class - 6H | |
| | | Substrate - HSS-E | |
| | | Coating - PVD TiAlN+WC/C | |
| | | Functional length – 70 & 80 mm | |
| | | Flute count - 3 | |
| | | Flute helix angle - 48 deg | |
| Standard - DIN371 | | | |
| 9.3 | Solid Carbide Drill Dia 6.8 mm for M8 | Cutting diameter - 6.8 mm | 20 |
| | | Achievable hole tolerance - H9 | |
| | | Coating - PVD (Ti,Al)N | |
| | | Connection diameter - 8 mm | |
| | | Point angle - 140 deg | |
| | | Overall length - 91 mm | |
| 9.4 | Tap M8 | Thread diameter size - M8 | 20 |
| | | Thread pitch - 1.25 mm | |
| | | Thread tolerance class - 6H | |
| | | Substrate - HSS-E | |
| | | Coating - PVD TiAlN+WC/C | |
| | | Functional length - 90 mm | |
| | | Flute count - 3 | |
| | | Flute helix angle - 48 deg | |
| Standard - DIN371 | | | |
| 9.5 | Solid Carbide Drill Dia 8.5mm for M10 | Cutting diameter - 8.5 mm | 20 |
| | | Achievable hole tolerance - H9 | |
| | | Coating - PVD (Ti,Al)N | |
| | | Connection diameter - 10 mm | |
| | | Point angle - 140 deg | |
| | | Overall length - 89 mm | |
| 9.6 | Tap M10 | Thread diameter size - M 10 | 20 |
| | | Thread pitch - 1.5 mm | |
| | | Thread tolerance class - 6HX | |
| | | Substrate - HSS-E-PM | |
| | | Coating - PVD (Ti,Al)N | |
| | | Functional length - 100 mm | |
| | | Flute count - 3 | |
| | | Flute helix angle - 48 deg | |
| Standard - DIN371 | | | |

| | | | |
|-------------------|--|--|----|
| 9.7 | Solid Carbide Drill Dia 10.2mm for M12 | Cutting diameter - 10.2 mm | 20 |
| | | Achievable hole tolerance - H9 | |
| | | Coating - PVD (Ti,Al)N | |
| | | Connection diameter - 12 mm | |
| | | Point angle - 140 deg | |
| | | Overall length - 102 mm | |
| 9.8 | Tap M 12 | Thread diameter size - M 12 | 20 |
| | | Thread pitch - 1.75 mm | |
| | | Thread tolerance class - 6HX | |
| | | Substrate - HSS-E-PM | |
| | | Coating - PVD (Ti,Al)N | |
| | | Functional length - 110 mm | |
| | | Flute count - 4 | |
| | | Flute helix angle - 48 deg | |
| Standard - DIN371 | | | |
| 9.9 | Solid Carbide Drill Dia 14 mm for M16 | Cutting diameter - 14 mm | 20 |
| | | Achievable hole tolerance - H9 | |
| | | Coating - PVD (Ti,Al)N | |
| | | Connection diameter - 16 mm | |
| | | Point angle - 140 deg | |
| | | Overall length - 109 mm | |
| 9.10 | Tap M 16 | Thread diameter size - M 12 | 20 |
| | | Thread pitch – 2.0 mm | |
| | | Thread tolerance class - 6HX | |
| | | Substrate - HSS-E-PM | |
| | | Coating - PVD (Ti,Al)N | |
| | | Functional length - 120 mm | |
| | | Flute count - 4 | |
| | | Flute helix angle - 48 deg | |
| Standard - DIN371 | | | |
| Item 10 | Fine Boring Head Φ 6 to 108 mm with all accessories (kit) with suitable adaptor | | |
| 10.1 | Fine Boring Head Φ 6 to 108 mm (with all accessories) | Minimum cutting Φ - 3 mm | 3 |
| | | Maximum cutting diameter - 108 mm | |
| | | Adaptive interface work piece direction | |
| | | Cylindrical clamping w/ flats (sleeve) -metric: 20 | |
| | | Insert type : W , T , C (200 each) | |
| | | Body material code - Steel | |
| | | Least count adjustment - 0.002 mm | |
| | | Min. Working length | |
| | | (1) Φ 6 -21 mm (2) Φ 8 – 28mm (3) Φ 10-35mm | |
| | | (4) Φ 12 – 42mm (5) Φ 14 – 50 mm (6) Φ 16 – 60mm | |
| | | (7) Φ 18 – 63mm (8) Φ 22 – 68mm (9) Φ 28 – 63 & 105mm (10) Φ 36 - 63 & 105mm (11) Φ 54 – 79mm | |
| | | (12) 80-93mm | |

| Item 11 | | OD Turning Holder for Rough with Inserts | |
|--|------------------------------|---|-----|
| 11.1 | OD Turning Holder For Rough | Tool cutting edge angle - 95 deg | 3 |
| | | Tool lead angle - (-)5 deg | |
| | | Adaptive interface machine direction | |
| | | Rectangular shank -metric: 20 x 20 | |
| | | Hand - Left | |
| | | Shank width - 20 mm | |
| | | Shank height - 20 mm | |
| | | Functional length - 150 mm | |
| | | Functional width - 32 mm | |
| | | Functional height - 25 mm | |
| | | Body material code - Steel | |
| Master insert identification - CNMG 12 04 08 | | | |
| 11.2 | OD Turning Inserts | Insert size and shape - CN1204 | 400 |
| | | Inscribed circle diameter - 12.7 mm | |
| | | Insert shape code - C | |
| | | Cutting edge effective length - 12.096 mm | |
| | | Corner radius - 0.794 mm | |
| | | Hand - Neutral | |
| | | Coating - CVD Ti(C,N)+Al2O3+TiN | |
| Insert thickness - 4.763 mm | | | |
| Item 12 | | OD Turning Holder for Finish with Inserts | |
| 12.1 | OD Turning Holder For Finish | Tool cutting edge angle - 93 deg | 3 |
| | | Tool lead angle - (-)3 deg | |
| | | Adaptive interface machine direction | |
| | | Rectangular shank -metric: 20 x 20 | |
| | | Hand - Left | |
| | | Shank width - 20 mm | |
| | | Shank height - 20 mm | |
| | | Functional length - 125 mm | |
| | | Functional height - 20 mm | |
| | | Body material code - Steel | |
| Master insert identification - DNMG 11 04 08 | | | |
| 12.2 | OD Turning Inserts | Operation type - Finish | 400 |
| | | Insert size and shape - DN1104 | |
| | | Inscribed circle diameter - 9.525 mm | |
| | | Insert shape code - D | |
| | | Cutting edge effective length - 10.828 mm | |
| | | Corner radius - 0.794 mm | |
| | | Hand - Neutral | |
| | | Coating - CVD Ti(C,N)+Al2O3+TiN | |
| Insert thickness - 4.763 mm | | | |

| Item 13 | | ID Turning Boring Bar with Inserts | |
|---------|------------------------------------|--|----|
| 13.1 | ID Turning Boring Bar Φ 6 mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 6 | |
| | | Minimum overhang - 9 mm | |
| | | Hand - Left | |
| | | Functional length - 80 mm | |
| | | Functional width - 4.5 mm | |
| | | Body diameter - 6 mm | |
| | | Master insert identification - TCMT 06 T1 02 | |
| | | Cutting approach angle - 91 deg | |
| 13.2 | ID Turning Boring Bar Φ 8mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 8 | |
| | | Minimum overhang - 12 mm | |
| | | Hand - Left | |
| | | Functional length - 100 mm | |
| | | Functional width - 5 mm | |
| | | Body diameter - 8 mm | |
| | | Master insert identification - CCMT 06 02 04 | |
| | | Cutting approach angle - 91 deg | |
| 13.3 | ID Turning Boring Bar Φ 10 mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 10 | |
| | | Minimum overhang - 15 mm | |
| | | Hand - Left | |
| | | Functional length - 125 mm | |
| | | Functional width -6 mm | |
| | | Body diameter - 10 mm | |
| | | Master insert identification -CCMT 06 02 04 | |
| | | Cutting approach angle - 91 deg | |
| 13.4 | ID Turning Boring Bar Φ 12 mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 12 | |
| | | Minimum overhang - 18 mm | |
| | | Hand - Left | |
| | | Functional length - 150 mm | |
| | | Functional width -9 mm | |
| | | Body diameter - 12 mm | |
| | | Master insert identification -CCMT 06 02 04 | |
| | | Cutting approach angle - 91 deg | |
| 13.5 | ID Turning Boring Bar Φ 16 mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 16 | |
| | | Minimum overhang - 24 mm | |
| | | Hand - Left | |
| | | Functional length - 200 mm | |
| | | Functional width -11 mm | |
| | | Body diameter - 16 mm | |
| | | Master insert identification -CCMT 09 T3 08 | |
| | | Cutting approach angle - 91 deg | |

| | | | |
|---|---|---|-----|
| 13.6 | ID Turning Boring Bar Φ 20mm | Adaptive interface machine direction | 10 |
| | | Cylindrical shank w/ 3 flats -metric: 20 | |
| | | Minimum overhang - 30 mm | |
| | | Hand - Left | |
| | | Functional length - 250 mm | |
| | | Functional width -13 mm | |
| | | Body diameter - 20 mm | |
| | | Master insert identification -CCMT 09 T3 08 | |
| 13.7 | Insert | Cutting approach angle - 91 deg | 400 |
| | | Insert size and shape - CC0602 | |
| | | Inscribed circle diameter - 6.35 mm | |
| | | Insert shape code - C | |
| | | Cutting edge effective length - 6.048 mm | |
| | | Corner radius - 0.397 mm | |
| | | Hand - Neutral | |
| | | Coating - CVD Ti(C,N)+Al ₂ O ₃ +TiN | |
| 13.8 | Insert | Insert thickness - 2.381 mm | 400 |
| | | Clearance angle major - 7 deg | |
| | | Insert size and shape - CC09T3 | |
| | | Inscribed circle diameter - 9.525 mm | |
| | | Insert shape code - C | |
| | | Cutting edge effective length - 8.872 mm | |
| | | Corner radius - 0.794 mm | |
| | | Hand - Neutral | |
| Coating - CVD Ti(C,N)+Al ₂ O ₃ +TiN | | | |
| 14.1 | Parting Holder | Insert thickness - 3.969 mm | 5 |
| | | Clearance angle major - 7 deg | |
| | | Cutting depth maximum - 15 mm | |
| | | Adaptive interface machine direction | |
| | | Rectangular shank -metric: 20 x 20 | |
| | | Work piece side body angle - 0 deg | |
| | | Maximum overhang - 33.5 mm | |
| | | Hand - Left | |
| 14.2 | 2 mm Parting Carbide Insert | Shank width - 20 mm | 200 |
| | | Shank height - 20 mm | |
| | | Functional length - 125 mm | |
| | | Cutting width - 2 mm | |
| | | Corner radius left - 0.2 mm | |
| | | Corner radius right - 0.2 mm | |
| | | Cutting depth maximum - 19 mm | |
| | | Hand - Neutral | |
| Coating - PVD (Ti,Al)N+TiN | | | |
| Clearance angle major - 7 deg | | | |
| Total length - 19 mm | | | |
| Item 14 Parting Holder for 2 mm & 3 mm Inserts | | | |

| | | | |
|---|-------------------------------------|--|-----|
| 14.3 | 3 mm Parting Carbide Insert | Cutting width - 3 mm | 200 |
| | | Corner radius left - 0.2 mm | |
| | | Corner radius right - 0.2 mm | |
| | | Cutting depth maximum - 18.9 mm | |
| | | Hand - Neutral | |
| | | Coating - PVD (Ti,Al)N | |
| | | Clearance angle major - 7 deg | |
| | | Total length - 18.9 mm | |
| Item 15 OD Threading holder with Inserts | | | |
| 15.1 | OD Threading holder | Adaptive interface machine direction - Rectangular shank - metric: 20 x 20 | 5 |
| | | Hand - Right | |
| | | Shank width - 20 mm | |
| | | Shank height - 20 mm | |
| | | Functional length - 125 mm | |
| | | Functional width - 25 mm | |
| | | Functional height - 20 mm | |
| | | Shim protection to insert | |
| | | Clearance angle major - (-) 10 deg | |
| 15.2 | OD Threading Inserts | Thread form type - WH55 | 100 |
| | | Standard number - ISO 228-1982 | |
| | | Thread type - Ext | |
| | | Thread per inch - 8 | |
| | | Thread profile type - F | |
| | | Tooth count - 1 | |
| | | Thread tolerance class - A | |
| | | Theoretical thread height - 2.52 mm | |
| | | Inscribed circle diameter - 9.525 mm | |
| | | Hand - Right | |
| | | Coating - PVD (Ti,Cr,Al)N+(Ti,Al)N | |
| | | Insert thickness - 3.969 mm | |
| Item 16 ID Threading holder with Inserts | | | |
| 16.1 | ID Threading Boring Bar Φ 16mm | Adaptive interface machine direction | 5 |
| | | Cylindrical shank w/ 3 flats -metric: 16 | |
| | | Minimum bore diameter - 20 mm | |
| | | Minimum overhang - 27 mm | |
| | | Maximum overhang - 48 mm | |
| | | Usable length - 48 mm | |
| | | Hand - Right | |
| | | Shank height - 15 mm | |
| | | Functional length - 200 mm | |
| | | Functional width - 12 mm | |
| | | Body diameter - 16 mm | |

| | | | |
|----------------|---|--------------------------------------|--------|
| 16.2 | ID Threading Inserts | Thread form type - M60 | 200 |
| | | Standard number - ISO 965-1998 | |
| | | Thread type - INT | |
| | | Thread pitch - 1.5 mm | |
| | | Thread profile type - F | |
| | | Tooth count - 2 | |
| | | Thread tolerance class - 6 | |
| | | Theoretical thread height - 0.96 mm | |
| | | Inscribed circle diameter - 9.525 mm | |
| | | Hand - Right | |
| | | Coating - PVD (Ti,Cr,Al)N+(Ti,Al)N | |
| | | Insert thickness - 3.969 mm | |
| Item 17 | Index able type End mill cutter with all accessories | | |
| 17.1 | Dia 16 | Working length = ~ 8.8mm | 5 each |
| | | Total Length = 90 & 170 | |
| | | Insert Count = 2 Min | |
| | | Body : steel | |
| | | Shank Dia. = 16mm | |
| | | Working Dia. = 16 mm | |
| 17.2 | Dia 20 | Working length = ~ 8.8mm | 5 each |
| | | Total Length = 110 & 170 | |
| | | Insert Count = 3 Min | |
| | | Body : steel | |
| | | Shank Dia. =20mm | |
| | | Working Dia. = 20 mm | |
| 17.1 | Dia 25 | Working length = ~ 8.8mm | 5 each |
| | | Total Length = 110 & 210 | |
| | | Insert Count = 4 Min | |
| | | Body : steel | |
| | | Shank Dia. = 25mm | |
| | | Working Dia. = 25 mm | |
| 17.2 | Inserts | Shape code : AP | 800 |
| | | Coating PVD | |

Note:

1. The cutter body, accessories and Inserts should be in same make.
2. All items should be available in OEM website along with part no.
3. Product Catalogue has to be submitted along with technical bid.
4. 20 Nos. screws (same Make) has to be supplied extra per cutter body.
5. All accessories which is necessary to run the Tool has to be supplied along with.

ANNEXURE -B

(Undertaking from Bidder on their official stationery)

To,
The Chief General Manager
NSIC Technical Services Centre,
Okhla Industrial Estate, New Delhi-110020

Sir,

Subject: Undertaking for the participation in the tender No. NSIC/TOOL ROOM/2016-17/94 (76) due for opening of technical bid on 6th, October 2017.

Dear Sir,

HAVING EXAMINED AND PERUSED THE FOLLOWING DOCUMENTS

1. Notice Inviting Tender
2. Instruction To The Tenderer
3. Technical Specifications of tooling (Annexure-A)
4. Annexure – C (Technical Bid)
5. Annexure – D (Commercial Bid)

I/Wedo hereby submit the above tender in prescribed formats duly completed in all respects in accordance with the conditions applicable. If this tender is accepted, I/We agree to abide by and fulfill all the terms and conditions in the tender documents

I/We hereby distinctly and expressly declare and acknowledge that before the submission of this tender, I/We have carefully followed the instructions and I/We have understood the existing system of supply at the location(s) of purchaser including the scope and nature of duties expected from the Bidder.

I/We distinctly agree that I/We would hereafter make no claim or demand upon the purchaser based upon or arising out of any alleged misunderstanding or misconceptions or mistake on my/our part of the said stipulations, restrictions and conditions.

I/ We declare that our unit has never made any default in supplying the tooling/ equipment to Government / Semi Government/ Central or State Public sector enterprise(s) in terms of quality and financial agreed supply conditions.

Any notice required to be served on me/us shall be sufficiently served on me/us by post (registered or ordinary) or courier or left at my/our address furnished herein.

.....
.....

I/We fully understand the terms and conditions in the tender documents.
I/We understood that the purchaser is not bound to accept any proposal that it may receive without assigning any reason.

Dated this.....day of.....2017

Authorized Signatory
Seal:

FORMAT & REQUIREMENTS FOR SUBMITTING TECHNICAL BID

1. **Tender Ref. No:** NSIC / TOOL ROOM / 2016-17 / 94 (76)
2. **Name of Bidder:**
3. **Complete office address of Bidder:**
4. **Tender fee payment details** (*if tender document downloaded from website*)
 Details of DD/RTGS/NEFT by which tender fee paid.....
5. **Confirmation of acceptance of Technical Specifications for the supply of Tooling:**

| Sr No | Description | Specification | Qty | Acceptance to the Specification as placed at Annexure-A and agreed to supply with required Quantity (write YES/ NO only along with part no) | If marked "NO" in the column before, specify the deviation in specification of the Tooling offered for the supply. |
|--|--|------------------------------------|-----|---|--|
| Item1 | Face Milling Cutter Dia 80 mm with inserts and holder | | | | |
| 1.1 | Face Milling Cutter Dia 80 mm | Tool cutting edge angle -45 degree | 6 | | |
| Cutting diameter -80 mm | | | | | |
| No of inserts - 6 | | | | | |
| Depth of cut maximum - 6 mm | | | | | |
| Hand - Right | | | | | |
| Adaptive interface machine direction Arbor -ISO 6462 -A (hexagon socket head cap screw) - metric: 27 | | | | | |
| Cutting pitch differential | | | | | |

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| 1.2 | Inserts | Inscribed Circle Diameter - 13 mm | 500 | | |
| | | Insert shape code - S | | | |
| | | Cutting edge effective length - 8.8 mm | | | |
| | | Wiper edge length - 2 mm | | | |
| | | Corner radius - 0.8 mm | | | |
| | | Major cutting edge angle - 45 deg | | | |
| | | Hand - Right | | | |
| | | Coating - CVD Ti (C, N) + Al2O3 + TiN | | | |
| | | Insert thickness - 5.6 mm | | | |
| 1.3 | Suitable Basic Holder BT 40 to face mill arbor dia 27 mm | Adaptive interface Work piece direction Arbor -ISO 6462 -A/B (center bolt/washer) - metric: 27 | 6 | | |
| | | Connection retention knob thread size M16 | | | |
| | | Connection diameter - 27 mm | | | |
| | | Functional length - 100 mm | | | |
| | | Body material code - Steel | | | |
| Item 2 | Shoulder milling cutter Dia 50 mm with inserts and holder | | | | |
| 2.1 | Shoulder milling cutter dia 50 mm | Cutting diameter - 50 mm | 5 | | |
| | | No of inserts - 5 | | | |
| | | Depth of cut maximum - 10 mm | | | |
| | | Maximum ramping angle - 1.4 deg | | | |
| | | Cutting pitch differential | | | |
| | | Adaptive interface machine direction Arbor -ISO 6462 -A (hexagon socket head cap screw) -metric: 22 | | | |
| | | Hand - Right | | | |
| | | Connection diameter - 22 mm | | | |
| | | Functional length - 40 mm | | | |
| | | Body material code - Steel | | | |

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| 2.2 | Inserts | Insert width - 6.8 mm | 500 | | |
| | | Cutting edge effective length - 10 mm | | | |
| | | Wiper edge length - 1.2 mm | | | |
| | | Corner radius - 0.8 mm | | | |
| | | Major cutting edge angle - 90 deg | | | |
| | | Hand - Right | | | |
| | | Coating - CVD Ti (C, N) + Al2O3 + TiN | | | |
| | | Insert thickness - 3.59 mm ; insert code : AP | | | |
| 2.3 | Suitable Basic Holder BT 40 to face mill arbor dia 22 mm | Adaptive interface work piece direction | 5 | | |
| | | Arbor -ISO 6462 -A/B (center bolt/washer) -metric: 27 | | | |
| | | Connection retention knob thread size - M16 | | | |
| | | Connection diameter - 22 mm | | | |
| | | Functional length - 100 mm | | | |
| | Body material code - Steel | | | | |
| Item 3 | Shoulder milling cutter dia 32 mm, long 192 mm with inserts and holder | | | | |
| 3.1 | Shoulder milling cutter dia 32 mm long 192 mm | Cutting diameter - 32 mm | 5 | | |
| | | No of inserts - 2 | | | |
| | | Depth of cut maximum - 10 mm | | | |
| | | Maximum ramping angle - 5.5 deg | | | |
| | | Usable length - 192 mm | | | |
| | | Cutting pitch differential -true | | | |
| | | Hand - Right | | | |
| | | Damping property - True | | | |
| | | Connection diameter - 50 mm | | | |
| | | Functional length - 217 mm | | | |
| | | Body material code - Steel | | | |
| 3.2 | Inserts | Insert width - 6.8 mm | 500 | | |
| | | Insert shape code - AP | | | |
| | | Cutting edge effective length - 10 mm | | | |
| | | Wiper edge length - 1.2 mm | | | |
| | | Corner radius - 0.8 mm | | | |
| | | Major cutting edge angle - 90 deg | | | |

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| | | Hand - Right | | | |
| | | Coating - PVD (Ti,Al)N2 | | | |
| | | Insert thickness - 3.59 mm | | | |
| 3.3 | Basic Holder BT-40 side lock adaptor | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 | | |
| | | Connection retention knob thread size M16 | | | |
| | | Connection diameter - 50 mm | | | |
| | | Functional length - 90 mm | | | |
| | | Body material code – Steel | | | |
| Item 4 | High Feed Milling Cutter Dia. 25 mm with inserts and holder | | | | |
| 4.1 | High Feed Milling Cutter Dia 25 mm | Tool cutting edge angle - 10 deg | 5 | | |
| | | Cutting diameter - 10.9 mm | | | |
| | | Maximum cutting diameter - 25 mm | | | |
| | | No of inserts - 2 | | | |
| | | Maximum ramping angle - 14.5 deg | | | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 20.0 | | | |
| | | Hand - Right | | | |
| | | Connection diameter - 20 mm | | | |
| | | Functional length - 180 mm | | | |
| | | Body material code - Steel | | | |
| 4.2 | Inserts | Inscribed circle diameter - 9.5 mm | 500 | | |
| | | Insert shape code - S | | | |
| | | Cutting edge effective length - 5.77 mm | | | |
| | | Wiper edge length - 0.66 mm | | | |
| | | Corner radius - 1.4 mm | | | |
| | | Major cutting edge angle - 10 deg | | | |
| | | Hand - Neutral | | | |
| | | Coating - CVD Ti(C,N)+Al2O3+TiN | | | |
| | | Insert thickness - 4.5 mm | | | |

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| 4.3 | Basic Holder BT-40 to Side Lock Dia 20 mm | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 | | |
| | | Adaptive interface workpiece direction Cylindrical clamping (ISO9766 drill shank) -metric: 20 | | | |
| | | Connection retention knob thread size M16 | | | |
| | | Connection diameter 20 mm | | | |
| | | Functional length - 75 mm | | | |
| | | Body material code – Steel | | | |
| Item 5 | Round Milling Cutter Dia 20 mm with inserts and holder | | | | |
| 5.1 | Round Milling Cutter Dia 20 mm | Cutting diameter - 20 mm | 5 | | |
| | | Maximum cutting diameter - 32 mm | | | |
| | | No of inserts - 2 | | | |
| | | Depth of cut maximum - 9 mm | | | |
| | | Maximum ramping angle - 12 deg | | | |
| | | Cutting pitch differential - true | | | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 25.0 | | | |
| | | Hand - Right | | | |
| | | Connection diameter - 25 mm | | | |
| | | Connection diameter tolerance - h7 | | | |
| | | Functional length - 190 mm | | | |
| | | Body material code - Steel | | | |
| 5.2 | Inserts | Inscribed circle diameter - 12 mm | 500 | | |
| | | Insert shape code - R | | | |
| | | Corner radius - 6 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Insert thickness - 3.969 mm | | | |

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| 5.3 | Basic Holder BT-40 to Side Lock Dia 25 mm | Adaptive interface machine direction MAS-BT403 -AD/B central/flange coolant - BT40 | 5 | | |
| | | Adaptive interface workpiece direction Cylindrical clamping (ISO9766 drill shank) -metric: 25 | | | |
| | | Connection retention knob thread size M16 | | | |
| | | Connection diameter 25 mm | | | |
| | | Functional length - 80 mm | | | |
| | | Body material code – Steel | | | |
| Item 6 | Round Milling Cutter Dia 50 mm with inserts | | | | |
| 6.1 | Round Milling Cutter Dia 50 mm | Cutting diameter - 50 mm | 3 | | |
| | | Maximum cutting diameter - 40 mm | | | |
| | | No of inserts - 4 | | | |
| | | Depth of cut maximum - 9 mm | | | |
| | | Maximum ramping angle - 12 deg | | | |
| | | Cutting pitch differential - true | | | |
| | | Adaptive interface machine direction Cylindrical shank without clamping features -metric: 25.0 | | | |
| | | Hand - Right | | | |
| | | Connection diameter - 50 mm | | | |
| | | Connection diameter tolerance - h7 | | | |
| | | Body material code - Steel | | | |
| 6.2 | Inserts | Inscribed circle diameter - 12 mm | 500 | | |
| | | Insert shape code - R | | | |
| | | Corner radius - 6 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Insert thickness - 3.969 mm | | | |
| Item 7 | Solid Carbide End mill | | | | |
| 7.1 | Solid Carbide Endmill Dia 16 mm | Cutting diameter -16 mm | 20 | | |
| | | Peripheral effective cutting edge count -4 | | | |
| | | Connection diameter tolerance - h6 | | | |
| | | Coating - PVD TiAlN | | | |

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|-----|---------------------------------|--|----|--|--|
| | | Connection diameter - 16 mm | | | |
| | | Max ramping angle - 5 deg | | | |
| | | Flute helix angle - 50 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |
| 7.2 | Solid Carbide Endmill Dia 12 mm | Cutting diameter -12 mm | 20 | | |
| | | Peripheral effective cutting edge count -4 | | | |
| | | Connection diameter tolerance - h6 | | | |
| | | Coating - PVD TiAlN | | | |
| | | Connection diameter - 12 mm | | | |
| | | Max ramping angle - 5 deg | | | |
| | | Flute helix angle - 50 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |
| 7.3 | Solid Carbide Endmill Dia 10 mm | Cutting diameter -10 mm | 20 | | |
| | | Peripheral effective cutting edge count -4 | | | |
| | | Connection diameter tolerance - h6 | | | |
| | | Coating - PVD (Ti,Al)N2 | | | |
| | | Connection diameter - 10 mm | | | |
| | | Max ramping angle - 5 deg | | | |
| | | Flute helix angle - 50 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |
| 7.4 | Solid Carbide Endmill Dia 8 mm | Cutting diameter -8 mm | 20 | | |
| | | Peripheral effective cutting edge count -4 | | | |
| | | Connection diameter tolerance - h6 | | | |
| | | Coating - PVD TiAlN | | | |
| | | Connection diameter - 8 mm | | | |
| | | Max ramping angle - 5 deg | | | |
| | | Flute helix angle - 50 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |

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| 7.4 | Solid Carbide Endmill Dia 20 mm | Cutting diameter -20 mm | 20 | | |
| | | Peripheral effective cutting edge count -4 | | | |
| | | Connection diameter tolerance - h6 | | | |
| | | Coating - PVD TiAlN | | | |
| | | Connection diameter - 20 mm | | | |
| | | Max ramping angle - 5 deg | | | |
| | | Flute helix angle - 50 deg | | | |
| | | Cutting material hardness \leq 48 HRC | | | |
| Item 8 | Solid Carbide Ball Nose | | | | |
| 8.1 | Solid Carbide Ball Nose Dia 3 mm | Cutting diameter - 3 mm | 20 | | |
| | | Corner radius - 1.5 mm | | | |
| | | Maximum ramping angle -15 deg | | | |
| | | Flute helix angle - 30 deg | | | |
| | | Cutting material hardness \leq 48 HRC | | | |
| | | Peripheral effective cutting edge count - 2 | | | |
| | | Adaptive interface machine direction | | | |
| | | Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 3 | | | |
| | | Coating -PVD AlCrN | | | |
| | | Functional length - 38 mm | | | |
| | | Connection diameter - 3 mm | | | |
| 8.2 | Solid Carbide Ball Nose Dia 4 mm | Cutting diameter - 4 mm | 20 | | |
| | | Corner radius - 2 mm | | | |
| | | Maximum ramping angle -15 deg | | | |
| | | Flute helix angle - 30 deg | | | |
| | | Cutting material hardness \leq 48 HRC | | | |
| | | Peripheral effective cutting edge count - 2 | | | |
| | | Adaptive interface machine direction | | | |
| | | Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 4 | | | |
| | | Coating -PVD AlCrN | | | |
| | | Functional length - 57 mm | | | |
| | | Connection diameter - 6 mm | | | |

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| 8.3 | Solid Carbide Ball Nose Dia 6 mm | Cutting diameter - 6 mm | 20 | | |
| | | Corner radius - 3 mm | | | |
| | | Maximum ramping angle -15 deg | | | |
| | | Flute helix angle - 30 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |
| | | Peripheral effective cutting edge count - 2 | | | |
| | | Adaptive interface machine direction | | | |
| | | Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 6 | | | |
| | | Coating -PVD AlCrN | | | |
| | | Functional length - 57 mm | | | |
| Connection diameter - 6 mm | | | | | |
| 8.4 | Solid Carbide Ball Nose Dia 8 mm | Cutting diameter -8 mm | 20 | | |
| | | Corner radius - 4 mm | | | |
| | | Maximum ramping angle -15 deg | | | |
| | | Flute helix angle - 30 deg | | | |
| | | Cutting material hardness ≤ 48 HRC | | | |
| | | Peripheral effective cutting edge count - 2 | | | |
| | | Adaptive interface machine direction | | | |
| | | Cylindrical shank (DIN1835-A / DIN6535-HA) -metric: 8 , | | | |
| | | Coating -PVD AlCrN | | | |
| | | Functional length - 63 mm | | | |
| Connection diameter - 8 mm | | | | | |
| Item 9 | Solid Carbide Drill with M/c Tap | | | | |
| 9.1 | Solid Carbide Drill Dia4.2mm for M5 & 5mm for M6 | Cutting diameter – 4.2 & 5 mm | 20 each | | |
| | | Achievable hole tolerance - H9 | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Connection diameter – 5 & 6 mm | | | |
| | | Point angle - 140 deg | | | |
| Overall length - 60 & 66 mm | | | | | |
| 9.2 | Tap M5 & M6 | Thread diameter size – M5 & M6 | 20 each | | |
| | | Thread pitch – 0.8 & 1 mm | | | |
| | | Thread tolerance class - 6H | | | |
| | | Substrate - HSS-E | | | |

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| | | Coating - PVD TiAlN+WC/C | | | |
| | | Functional length – 70 & 80 mm | | | |
| | | Flute count - 3 | | | |
| | | Flute helix angle - 48 deg | | | |
| | | Standard - DIN371 | | | |
| 9.3 | Solid Carbide Drill Dia 6.8 mm for M8 | Cutting diameter - 6.8 mm | 20 | | |
| | | Achievable hole tolerance - H9 | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Connection diameter - 8 mm | | | |
| | | Point angle - 140 deg | | | |
| | | Overall length - 91 mm | | | |
| 9.4 | Tap M8 | Thread diameter size - M8 | 20 | | |
| | | Thread pitch - 1.25 mm | | | |
| | | Thread tolerance class - 6H | | | |
| | | Substrate - HSS-E | | | |
| | | Coating - PVD TiAlN+WC/C | | | |
| | | Functional length - 90 mm | | | |
| | | Flute count - 3 | | | |
| | | Flute helix angle - 48 deg | | | |
| | | Standard - DIN371 | | | |
| 9.5 | Solid Carbide Drill Dia 8.5mm for M10 | Cutting diameter - 8.5 mm | 20 | | |
| | | Achievable hole tolerance - H9 | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Connection diameter - 10 mm | | | |
| | | Point angle - 140 deg | | | |
| | | Overall length - 89 mm | | | |

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| 9.6 | Tap M10 | Thread diameter size - M 10 | 20 | | |
| | | Thread pitch - 1.5 mm | | | |
| | | Thread tolerance class - 6HX | | | |
| | | Substrate - HSS-E-PM | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Functional length - 100 mm | | | |
| | | Flute count - 3 | | | |
| | | Flute helix angle - 48 deg | | | |
| | | Standard - DIN371 | | | |
| 9.7 | Solid Carbide Drill Dia 10.2mm for M12 | Cutting diameter - 10.2 mm | 20 | | |
| | | Achievable hole tolerance - H9 | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Connection diameter - 12 mm | | | |
| | | Point angle - 140 deg | | | |
| | | Overall length - 102 mm | | | |
| 9.8 | Tap M 12 | Thread diameter size - M 12 | 20 | | |
| | | Thread pitch - 1.75 mm | | | |
| | | Thread tolerance class - 6HX | | | |
| | | Substrate - HSS-E-PM | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Functional length - 110 mm | | | |
| | | Flute count - 4 | | | |
| | | Flute helix angle - 48 deg | | | |
| Standard - DIN371 | | | | | |
| 9.9 | Solid Carbide Drill Dia 14 mm for M16 | Cutting diameter - 14 mm | 20 | | |
| | | Achievable hole tolerance - H9 | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Connection diameter - 16 mm | | | |
| | | Point angle - 140 deg | | | |
| | | Overall length - 109 mm | | | |

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| 9.10 | Tap M 16 | Thread diameter size - M 12 | 20 | | |
| | | Thread pitch – 2.0 mm | | | |
| | | Thread tolerance class - 6HX | | | |
| | | Substrate - HSS-E-PM | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Functional length - 120 mm | | | |
| | | Flute count - 4 | | | |
| | | Flute helix angle - 48 deg | | | |
| | | Standard - DIN371 | | | |
| Item 10 | Fine Boring Head Φ 6 to 108 mm with all accessories (kit) with suitable adaptor | | | | |
| 10.1 | Fine Boring Head Φ 6 to 108 mm (with all accessories) | Minimum cutting Φ - 3 mm | 3 | | |
| | | Maximum cutting diameter - 108 mm | | | |
| | | Adaptive interface work piece direction | | | |
| | | Cylindrical clamping w/ flats (sleeve) -metric: 20 | | | |
| | | Insert type : W , T , C (200 each) | | | |
| | | Body material code - Steel | | | |
| | | Least count adjustment - 0.002 mm | | | |
| | | Min. Working length | | | |
| | | (2) Φ 6 -21 mm (2) Φ 8 – 28mm (3) Φ 10-35mm | | | |
| | | (4) Φ 12 – 42mm (5) Φ 14 – 50 mm (6) Φ 16 – 60mm (7) Φ 18 – 63mm (8) Φ 22 – 68mm (9) Φ 28 – 63 & 105mm (10) Φ 36 - 63 & 105mm (11) Φ 54 – 79mm (12) 80-93mm | | | |

| Item 11 | | OD Turning Holder for Rough with Inserts | |
|---|-----------------------------|--|---|
| 11.1 | OD Turning Holder For Rough | Tool cutting edge angle - 95 deg | 3 |
| | | Tool lead angle - (-)5 deg | |
| | | Adaptive interface machine direction | |
| | | Rectangular shank -metric: 20 x 20 | |
| | | Hand - Left | |
| | | Shank width - 20 mm | |
| | | Shank height - 20 mm | |
| | | Functional length - 150 mm | |
| | | Functional width - 32 mm | |
| | | Functional height - 25 mm | |
| | | Body material code - Steel | |
| | | Master insert identification - CNMG 12 04 08 | |
| | | 11.2 | |
| Inscribed circle diameter - 12.7 mm | | | |
| Insert shape code - C | | | |
| Cutting edge effective length - 12.096 mm | | | |
| Corner radius - 0.794 mm | | | |
| Hand - Neutral | | | |
| Coating - CVD Ti(C,N)+Al2O3+TiN | | | |
| Insert thickness - 4.763 mm | | | |

| Item 12 | | OD Turning Holder for Finish with Inserts | | | |
|---------------------------------|-----------------------------------|--|-----|--|--|
| 12.1 | OD Turning Holder For Finish | Tool cutting edge angle - 93 deg | 3 | | |
| | | Tool lead angle - (-)3 deg | | | |
| | | Adaptive interface machine direction | | | |
| | | Rectangular shank -metric: 20 x 20 | | | |
| | | Hand - Left | | | |
| | | Shank width - 20 mm | | | |
| | | Shank height - 20 mm | | | |
| | | Functional length - 125 mm | | | |
| | | Functional height - 20 mm | | | |
| | | Body material code - Steel | | | |
| | | Master insert identification - DNMG 11 04 08 | | | |
| 12.2 | OD Turning Inserts | Operation type - Finish | 400 | | |
| | | Insert size and shape - DN1104 | | | |
| | | Inscribed circle diameter - 9.525 mm | | | |
| | | Insert shape code - D | | | |
| | | Cutting edge effective length - 10.828 mm | | | |
| | | Corner radius - 0.794 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - CVD Ti(C,N)+Al2O3+TiN | | | |
| | | Insert thickness - 4.763 mm | | | |
| Item 13 | | ID Turning Boring Bar with Inserts | | | |
| 13.1 | ID Turning Boring Bar Φ 6 mm | Adaptive interface machine direction | 10 | | |
| | | Cylindrical shank w/ 3 flats -metric: 6 | | | |
| | | Minimum overhang - 9 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 80 mm | | | |
| | | Functional width - 4.5 mm | | | |
| | | Body diameter - 6 mm | | | |
| | | Master insert identification - TCMT 06 T1 02 | | | |
| Cutting approach angle - 91 deg | | | | | |

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| 13.2 | ID Turning Boring Bar Φ 8mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 8 | 10 | | |
| | | Minimum overhang - 12 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 100 mm | | | |
| | | Functional width - 5 mm | | | |
| | | Body diameter - 8 mm | | | |
| | | Master insert identification - CCMT 06 02 04 | | | |
| | | Cutting approach angle - 91 deg | | | |
| 13.3 | ID Turning Boring Bar Φ 10 mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 10 | 10 | | |
| | | Minimum overhang - 15 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 125 mm | | | |
| | | Functional width -6 mm | | | |
| | | Body diameter - 10 mm | | | |
| | | Master insert identification -CCMT 06 02 04 | | | |
| | | Cutting approach angle - 91 deg | | | |
| 13.4 | ID Turning Boring Bar Φ 12 mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 12 | 10 | | |
| | | Minimum overhang - 18 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 150 mm | | | |
| | | Functional width -9 mm | | | |
| | | Body diameter - 12 mm | | | |
| | | Master insert identification -CCMT 06 02 04 | | | |
| | | Cutting approach angle - 91 deg | | | |

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| 13.5 | ID Turning Boring Bar Φ 16 mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 16 | 10 | | |
| | | Minimum overhang - 24 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 200 mm | | | |
| | | Functional width -11 mm | | | |
| | | Body diameter - 16 mm | | | |
| | | Master insert identification -CCMT 09 T3 08 | | | |
| | | Cutting approach angle - 91 deg | | | |
| 13.6 | ID Turning Boring Bar Φ 20mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 20 | 10 | | |
| | | Minimum overhang - 30 mm | | | |
| | | Hand - Left | | | |
| | | Functional length - 250 mm | | | |
| | | Functional width -13 mm | | | |
| | | Body diameter - 20 mm | | | |
| | | Master insert identification -CCMT 09 T3 08 | | | |
| | | Cutting approach angle - 91 deg | | | |
| 13.7 | Insert | Insert size and shape - CC0602 | 400 | | |
| | | Inscribed circle diameter - 6.35 mm | | | |
| | | Insert shape code - C | | | |
| | | Cutting edge effective length - 6.048 mm | | | |
| | | Corner radius - 0.397 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - CVD Ti(C,N)+Al ₂ O ₃ +TiN | | | |
| | | Insert thickness - 2.381 mm | | | |
| Clearance angle major - 7 deg | | | | | |

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| 13.8 | Insert | Insert size and shape - CC09T3 | 400 | | |
| | | Inscribed circle diameter - 9.525 mm | | | |
| | | Insert shape code - C | | | |
| | | Cutting edge effective length - 8.872 mm | | | |
| | | Corner radius - 0.794 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - CVD Ti(C,N)+Al ₂ O ₃ +TiN | | | |
| | | Insert thickness - 3.969 mm | | | |
| | | Clearance angle major - 7 deg | | | |
| Item 14 | Parting Holder for 2 mm & 3 mm Inserts | | | | |
| 14.1 | Parting Holder | Cutting depth maximum - 15 mm | 5 | | |
| | | Adaptive interface machine direction Rectangular shank -metric: 20 x 20 | | | |
| | | Work piece side body angle - 0 deg | | | |
| | | Maximum overhang - 33.5 mm | | | |
| | | Hand - Left | | | |
| | | Shank width - 20 mm | | | |
| | | Shank height - 20 mm | | | |
| | | Functional length - 125 mm | | | |
| | | 14.2 | | 2 mm Parting Carbide Insert | Cutting width - 2 mm |
| Corner radius left - 0.2 mm | | | | | |
| Corner radius right - 0.2 mm | | | | | |
| Cutting depth maximum - 19 mm | | | | | |
| Hand - Neutral | | | | | |
| Coating - PVD (Ti,Al)N+TiN | | | | | |
| Clearance angle major - 7 deg | | | | | |
| Total length - 19 mm | | | | | |

| | | | | | |
|------------------------------------|---|---|-----|--|--|
| 14.3 | 3 mm Parting Carbide Insert | Cutting width - 3 mm | 200 | | |
| | | Corner radius left - 0.2 mm | | | |
| | | Corner radius right - 0.2 mm | | | |
| | | Cutting depth maximum - 18.9 mm | | | |
| | | Hand - Neutral | | | |
| | | Coating - PVD (Ti,Al)N | | | |
| | | Clearance angle major - 7 deg | | | |
| | | Total length - 18.9 mm | | | |
| Item 15 | OD Threading holder with Inserts | | | | |
| 15.1 | OD Threading holder | Adaptive interface machine direction - Rectangular shank -metric: 20 x 20 | 5 | | |
| | | Hand - Right | | | |
| | | Shank width - 20 mm | | | |
| | | Shank height - 20 mm | | | |
| | | Functional length - 125 mm | | | |
| | | Functional width - 25 mm | | | |
| | | Functional height - 20 mm | | | |
| | | Shim protection to insert | | | |
| Clearance angle major - (-) 10 deg | | | | | |
| 15.2 | OD Threading Inserts | Thread form type - WH55 | 100 | | |
| | | Standard number - ISO 228-1982 | | | |
| | | Thread type - Ext | | | |
| | | Thread per inch - 8 | | | |
| | | Thread profile type - F | | | |
| | | Tooth count - 1 | | | |
| | | Thread tolerance class - A | | | |
| | | Theoretical thread height - 2.52 mm | | | |
| | | Inscribed circle diameter - 9.525 mm | | | |
| | | Hand - Right | | | |
| | | Coating - PVD (Ti,Cr,Al)N+(Ti,Al)N | | | |
| | | Insert thickness - 3.969 mm | | | |

| Item 16 | ID Threading holder with Inserts | | | | |
|--------------------------------------|-------------------------------------|--|---|----------------------|------------------------|
| 16.1 | ID Threading Boring Bar Φ 16mm | Adaptive interface machine direction Cylindrical shank w/ 3 flats -metric: 16 | 5 | | |
| | | Minimum bore diameter - 20 mm | | | |
| | | Minimum overhang - 27 mm | | | |
| | | Maximum overhang - 48 mm | | | |
| | | Usable length - 48 mm | | | |
| | | Hand - Right | | | |
| | | Shank height - 15 mm | | | |
| | | Functional length - 200 mm | | | |
| | | Functional width - 12 mm | | | |
| | | Body diameter - 16 mm | | | |
| | | 16.2 | | ID Threading Inserts | Thread form type - M60 |
| Standard number - ISO 965-1998 | | | | | |
| Thread type - INT | | | | | |
| Thread pitch - 1.5 mm | | | | | |
| Thread profile type - F | | | | | |
| Tooth count - 2 | | | | | |
| Thread tolerance class - 6 | | | | | |
| Theoretical thread height - 0.96 mm | | | | | |
| Inscribed circle diameter - 9.525 mm | | | | | |
| Hand - Right | | | | | |
| Coating - PVD (Ti,Cr,Al)N+(Ti,Al)N | | | | | |
| Insert thickness - 3.969 mm | | | | | |

| Item 17 | Index able type End mill cutter with all accessories | | | |
|---------|---|--------------------------|--------|--|
| 17.1 | Dia 16 | Working length = ~ 8.8mm | 5 each | |
| | | Total Length = 90 & 170 | | |
| | | Insert Count = 2 Min | | |
| | | Body : steel | | |
| | | Shank Dia. = 16mm | | |
| | | Working Dia. = 16 mm | | |
| 17.2 | Dia 20 | Working length = ~ 8.8mm | 5 each | |
| | | Total Length = 110 & 170 | | |
| | | Insert Count = 3 Min | | |
| | | Body : steel | | |
| | | Shank Dia. =20mm | | |
| | | Working Dia. = 20 mm | | |
| 17.1 | Dia 25 | Working length = ~ 8.8mm | 5 each | |
| | | Total Length = 110 & 210 | | |
| | | Insert Count = 4 Min | | |
| | | Body : steel | | |
| | | Shank Dia. = 25mm | | |
| | | Working Dia. = 25 mm | | |
| 17.2 | Inserts | Shape code : AP | 800 | |
| | | Coating PVD | | |
| 18 | The cutter body, accessories and Inserts should be in same make. | | | |
| 19 | All items should be available in OEM website along with part no. | | | |
| 20 | Product Catalogue has to be submitted along with technical bid. | | | |
| 21 | 20 Nos. screws (same Make) has to be supplied extra per cutter body. | | | |
| 22 | All accessories which is necessary to run the Tool has to be supplied | | | |

6. Confirmation for supply to the location:

| # | Details | Location |
|---|---|---------------------|
| | | New Delhi |
| 1 | Tentative quantity required | As given in sl no 5 |
| 2 | Consent to supply: (write YES/ NO only) | |

7. EMD payment details (Not applicable if the bidder is holding valid registration/ exemption certificate, as per Para 9 (c) of Instruction to Tenderers): Details of DD/RTGS/NEFT by which EMD paid

The EMD of Rs. 71,250/- (Rupees Seventy One Thousand Two Fifty Only) for New Delhi location shall be submitted.

8. PAN of bidder (self-attested copy to be enclosed)

9. GSTIN registration number of bidder (self-attested copy to be enclosed)

10. Delivery period after receipt of supply order from purchaser: (The purchaser interested for complete delivery of tooling by the bidder within Thirty (30) calendar days from the date of issue of supply order. However, the bidder have an option to submit the best delivery time, but in any case the delivery should be before 45 days from the date of issue of supply order by purchaser. Delivery to be completed in number of days (Calendar Days In figure) (Calendar Days in words) for delivery from the date of issue of supply order by purchaser.

11. Details of address with contact details from where the bidder planned to offer After Sales Services during the Warranty & after warranty Maintenance period :

| # | Location |
|---|------------------|
| | Okhla, New Delhi |
| Details of address of bidder for rendering 'After Sales Services' | |

12. Documents - Details to be enclosed with the Technical bid by bidder are as under:

- a) In case the bidder is Original Tool Manufacturer, the bidder to submit a self-declaration on their letter-head, confirming that they are regular in manufacturing & supplying the similar Tools, as asked in this tender, for the last Ten (10) years.
- b) In case the bidder is Authorized Distributor of OEM / Authorized Dealer of OEM, the bidder to attach self-certified valid authorized Distributorship / Dealership license from Original Equipment Manufacturer who shall be engaged in regular manufacturing and supply of similar tooling for the last ten (10) years.
- c) To avail benefit of Public Procurement Policy by SC/ST Micro & Small Enterprises, the requirement of documents to substantiate their claim (As per Para 10 of this tender) shall be submitted with Technical Bid.

- d) Undertaking as per annexure-B on official stationery.
- e) Duly signed all pages of "Instructions to Tenderers" of the tender document as a mark of acceptance.
- f) Technical Literature of tooling(s) with particular reference to the model of tooling proposed to supply against this tender along with reference of website to assess the further features.
- g) Authorization letter in favor of personnel to sign the tender behalf of bidder.
- h) Self-certified copy of valid certificate for claiming EMD exemption.
- i) Self-certified copy of valid certificate for claiming Tender Fee exemption.
- j) Self-attested copy of valid GSTIN registration.
- k) Self-attested copy of valid PAN.
- l) The Bidders shall furnish complete Technical details of Tooling offered to supply through the participation of this tender (use separate sheet to elaborate the details of technical specifications).
- m) To submit all supporting information with respect to the technical data, drawings or booklets of product. Any product brief, test certificates available may be enclosed.

I/We as bidder certify that:

- a. The tender shall remain valid for acceptance for 90 days from the date of opening the Technical Bid of the tender.
- b. No price of any Tooling/ Spares/ Accessories shall be given in Technical Bid.
- c. All above tooling should be provided with safety features/ curtains/enclosure etc. wherever applicable.
- d. Units should certify that all consumables and parts of the product confirm to national/ international standard(s).

Name & Signature of the authorized bidder with stamp
Contact details of authorized person of bidder who have signed the tender.

Name.....
Designation.....
Phone (office).....
Phone (Mobile).....
E mail.....

Annexure –“D”

FORMAT FOR SUBMISSION OF COMMERCIAL BID

1. Tender Ref. No: NSIC/TOOL ROOM/2016-17/94(76)
2. Name of the Bidder:
3. The financial offer to execute the supply as per the tender:

a. Supply of CNC Tooling to New Delhi location:

| # | Details | Unit Price of tooling before taxes & duties of single set (In Rs.) | Quantity to be supplied (In set.) | Total Price of tooling before taxes & duties (Multiply column no 2 and 3) (In Rs.) |
|----|--|--|-----------------------------------|--|
| | 1 | 2 | 3 | 4 |
| a. | Offered financials for the Supply as agreed in technical bid of the tender no. NSIC/TOOL ROOM/2016-17/94(76) | | | |
| b. | Total Price of tooling before taxes & duties for the supply of total quantity as detailed at row 'a' above to the location at New Delhi, (Row a) (In Rs.) | | | |
| c. | Total Price of tooling before taxes & duties for the supply of total quantity as detailed at row 'a' above to the location at New Delhi, location (Row a) (In words) | | | |
| | | | | |

The following to be noted while submitting financial details for the supply of tooling to the individual location:

- a. The Purchaser shall compare the "Unit Price of Tooling before Taxes & Duties" of all the responsive bids to determine the lowest bid.
- b. The bidder shall note that they are not supposed to put any Taxes & Duties amount in the Commercial Bid. However, after the supplies, they have to issue the invoice indicating the Price of tooling as quoted in the Commercial Offer and thereafter specify the Taxes as applicable at the time of delivery. The Purchaser shall pay total amount which includes the unit price of tooling as well as the taxes and duties as applicable at the time of delivery.
- c. The Total Cost quoted above should be inclusive of Basic Price, Transportation, Incidental Services (including Insurance, Loading/ Unloading, Packing & Forwarding charges etc.).
- d. The Purchaser is authorized to ask the evidence from bidder to counter-check that the taxes & duties as claimed by the bidder at the time of issue of invoice after the supply of tooling.
- e. The bidder will not be entitled to any increase in Unit Price of the tooling before Taxes & Duties occurring during the period of delivery even if there is delay in supplies / completion attributed to him.
- e) The "Unit Price of the Tooling before Taxes & Duties" should be inclusive of all costs involved for the delivery to the destination(s).
- f) No extra payment or revision of "Price of Tooling before Taxes & Duties" shall be accepted on account of any discrepancy in nomenclature of items. The Bidder is advised to seek clarification, if any, desired before submitting the tender.

- f. The "Unit Price of the Tooling before Taxes & Duties" competitiveness shall be given due consideration while analyzing the Commercial Bid.

I/We as bidder certify that:

- a. The tender shall remain valid for acceptance for 90 days from the date of opening the Technical Bid of the tender.
- b. Agree that the offer price is valid for a period of 90 days from the date of opening of technical bid of this tender.
- c. Agree to supply three (03) sets of catalogue.

Further confirm that we agree with the terms and conditions specified in "Instructions to Tenderers" and if selected, the execution of supplies would be made in compliance.

Name & Signature of the authorized bidder with stamp
Contact details of authorized person of bidder who have signed the tender.

Name.....

Designation.....

Phone (office).....

Phone (Mobile).....

E mail.....

***** END OF DOCUMENT *****