OPEN TENDER ENQUIRY: TENDER NO. BNPM/OTE/CHROME PLATING/0220/2022-23

e-TENDER FOR CHROME PLATING OF PAPER ROLL AT BNPM, MYSORE

(e-Tender)

BANK NOTE PAPER MILL INDIA PRIVATE LIMITED
Administrative Building,
Gate 1, Paper Mill Compound
Note Mudran Nagar, Mysuru 570003
Phone: 0821-2401 111/176/180/177, FAX: 0821- 2401120

Website: www.bnpmindia.com; Email: scm.tender@bnpmindia.com

Not Transferable

Security Classification: Non-security

TENDER DOCUMENT FOR CHROME PLATING OF PAPER ROLL SURFACE AT BNPM PLANT, MYSURU

e-Tender No. BNPM/OTE/CHROME PLATING/220/2022-23 dated 01.07.2022

This tender document contains 16 pages

The tender documents is issued to

M/s.	
Address	

Details of Contact person in BNPMIPL regarding this tender:

Address: Bank Note Paper Mill India Private Limited

Administrative Building Gate 1, Paper Mill Compound

Note Mudran Nagar, Mysuru - 570 003

Telephone No. 0821 - 2401 111/176/180/177

OPEN TENDER ENQUIRY: TENDER NO. BNPM/OTE/CHROME PLATING/0220/2022-23

e-TENDER FOR CHROME PLATING OF PAPER ROLL AT BNPM, MYSORE

List of Contents

Section I	Notice Inviting Tender	Enclosed
Section II	Terms and Conditions	Enclosed
Section III	Technical Specifications	Enclosed
Section IV	Quality Control Requirements	Enclosed
Section V	Section V Declarations	
	Annexure – A	Enclosed
	Annexure -B	Enclosed
Annexure – C		Enclosed
	Annexure – D	Enclosed
Section VI	Price Bid format	Enclosed

SECTION I: NOTICE INVITING TENDER

1. E-tenders are invited from eligible and qualified tenderers for supply of following goods:

Sched ule No.	Brief Description of Goods / Services	UOM	Requ ired Quan tity	EMD**	Remarks
0.4	Chrome plating of paper roll surface after removing the old chrome plating completely	Nos	02	3000/-	Nil
	**For MSE Bidders: Submission of EMD is exempted per the Public Procurement Policy for MSEs Order will continue to remain registered during the tenderentre (DIC) or Khadi and Village Industries Com (KVIB) or Coir Board or National Small Industries Handicrafts and Handlooms or UDYAM Registere MSME. Document: Valid NSIC / KVIC / KVIB / DIC Security Declaration as per Annexure C is to be suffer Non MSE bidders: Declaration for being non I may be submitted.	r, 2012. I der valid mission (s Commis d or Any C / UDYA lbmitted	MSEs sho ity period (KVIC) or ssion (NS) other bod M Registi by MSE b	uld be registed with Districtor Khadi and In ICO or Director dy specified bration certifications for EM	red and also Industries dustries Board rate of y Ministry of ate and Bid ID exemption.

Type of Tender (Two Bid / PQB / EOI / RC / Development / Indigenization / Disposal of Scrap / Security item etc.	Two Bid System (Part-I Techno-commercial bid & Part-II Financial /Price Bid)					
Tender Processing Fee	Rs. 250/- + taxes (to be paid online)					
Bid submission mode	Online Through e-tendering portal www.tenderwizard.com/BNP.					
Closing date and time for receipt of tenders	22.07. 2022, 1400 Hrs.					

- 1. Interested bidders may obtain further information about this requirement from the above office selling the documents. They may also visit our website www.tenderwizard.com/BNP mentioned above for further details.
- 2. Aspiring Bidders/Contractors who have not registered in e-tendering should register through the website E Tendering (www.tenderwizard.com/BNP) for participating in the Online Tenders. The registration charges will be Rs. 500/- plus applicable taxes (per year) which needs to be paid through electronic mode only.
- 3. For details, registration and e-payment, please visit e-tendering website www.tenderwizard.com/BNP or contact KEONICS help desk @ 080-40482000.
- 4. The NIT Form with standard tender documents will be accessible in the e-Tendering website (viz www.tenderwizard.com/BNP).
- 5. Class III Digital Signature Certificate (DSC) is mandatory to participate in e-Tenders. Participating bidders/Contractors have to make sure that they have the valid DSC. If not, they can procure from any of the firm as approved by CCA.
- 6. The tenderer shall satisfy BNPMIPL that they are competent and authorized to submit tender and/or to enter into a legally binding contract with the BNPMIPL. To this effect, any person giving a tender shall render documentary evidence that his signature on the tender submitted by him is legally binding upon himself, his firm or company as the case may be

- 7. For those tenderers whose technical bids do not satisfy the eligibility criteria, their financial Bids will not be opened.
- 8. In the event of any of the above mentioned dates being declared as a holiday/ closed day for the purchase organization, the tenders will be sold / received / opened on the next working day at the appointed time.
- 9. BNPM reserves the right to cancel the tender at any stage without assigning the reasons thereof.
- 10. The tender documents are not transferable.

Yours faithfully,

For and on behalf of BNPMIPL

Assistant General Manager

SECTION II: TERMS AND CONDITIONS OF THE TENDER

- 1. Tenders are to be uploaded on e-tendering portal www.tenderwizard.com/BNP only in Two part bid system.
- 2. <u>Part-I Techno-commercial Bid</u>: Scanned copy of Technical offer (catalogue/brochure etc.), GST, PAN, Bank details etc., along with all sections & annexures of this tender.
 - ii) Part II Price Bid:

Price shall be furnished through e-portal only.

Price offer submitted in any other format will be liable for rejection.

- 3. **Delivery Schedule**: Successful bidder shall complete supplies within 8 weeks from the date issue of purchase order.
- 4. Warranty: Not Applicable
- 5. **Security Deposit / Performance Security:** Not Applicable
- 6. Parties who have been black listed /debarred by BNPMIPL/BRBNMPL/SPMCIL or any PSU or any Government Departments are not eligible for submission of this tender.
- 7. Bidder may visit BNPMIPL, before submitting the offer after taking due permission for visiting to understand the requirements.
- 8. No counter conditions shall be accepted.
- 9. Bidders are advised to write the page number on each page of the Technical Bid documents submitted.
- 10. The BNPMIPL reserves the right to accept the offer by individual items and reject any or all tenders without assigning any reason thereof and does not bind itself to accept lowest quotations.
- 11. Manufacturer's name and country of origin of materials offered must be clearly specified. Please quote whether your organisation is large scale industry or small scale industry. If you have NSIC/MSE/MSI/DGS&D Certificate, please attach it to the quotation. Mention your registration details.
- 12. Complete details and ISI specification if any must accompany the quotation. Make/brand of the item shall be stated wherever applicable. If you have got any counter offer as suitable to the material required by us, the same may be shown separately.
- 13. All supplies are subject to inspection and approval before acceptance. Manufacturer/supplier warranty certificates and manufacturer/Government approved lab test certificate shall be furnished along with the supply, wherever applicable.
- 14. The BNPMIPL reserves the right to modify the quantity specified in this enquiry.
- 15. The prices quoted should be firm till the supplies are completed. Please quote the rates in words and figures. Rates quoted should be door deliver basis at destination including all charges otherwise the quotation is likely to be rejected. Prices quoted for free delivery at

destination (i.e., Mysore) will be given preference. If there is no indication regarding the FOR, in the quotation, then it will be considered as FOR destinations. Price quoted should be net and valid for a minimum period of three months from the date of opening of the quotation.

- 16. (i) The technical bids shall be opened in the first instance and these bids shall be scrutinised and evaluated by the competent committee/ authority with reference to the parameters prescribed in the tender document. Subsequently, in the second stage the financial bids of only technically acceptable offers as decided in first stage shall be opened for further scrutiny and evaluation. Intimation regarding opening of financial bids shall be given to acceptable tenderers to enable them to attend the financial bid opening, if they so desire.
 - ii) The method of evaluation of bidder for awarding the Contract shall be on consolidated grand total offered by the bidder and will be decided taking into consideration of the total offered price for delivery up to BNPM, Mysore.
 - (iii) All responsive tenderers shall be evaluated as per the terms & conditions of the tender. The basis for arriving at the lowest responsive bidder shall be as per the price quoted for landed cost at Mysore including GST, packing & forwarding charges, freight, insurance and any other charges etc. and input credit shall be deducted to arrive at the effective price. Effective price shall be considered for arriving the lowest responsive bidder.
 - (v) Bidder has to quote GST rate as per the HSN code provided in Section XI: Price Schedule. In case of any mismatch in HSN code with respect to offered product, same shall be decided in consultation with winning bidder
 - 17. In case the items in the enquiry are covered by any rate contract or running contract finalised by the DGS&D or any other state or central Government, is should be specified in your quotation and accepted contract rates should also be mentioned. It should be confirmed whether you could supply at the RC rates outside rate contract.
 - 18. Payment of GST is primarily the responsibility of the seller and will not be paid unless the percentage value is clearly mentioned in the quotations. If no indication regarding GST is recorded in the quotation, the GST will be considered as included.
 - 19. Delivery period required for supplying the material should be invariably specified in the quotation.
 - 20. In case your quotation is accepted and order is placed on you, the supply against the order should be made within the period stipulated in the order. BNPMIPL reserves the right to recover any loss sustained due to delayed delivery by way of penalty. Failure to supply the material within the stipulated period shall entitle BNPM to impose liquidated damages without assigning any reasons @ 0.5% (Half Percent) of the total value of the item covered in order as LD per week or part thereof subject to a maximum of 10% (Ten Percent) which you unconditionally and expressly agree to unless extension is obtained in writing from the office on valid ground before expiry of delivery period.
 - 21. If the deliveries are not maintained and due to that account BNPM is forced to buy the material at your risk and cost from elsewhere after due notice to you, the loss or damage that may be sustained there by will be recovered from the defaulting supplier.

- 22. **Payment terms**: 100% (Hundred Percent) within 30 (Thirty) days on receipt and acceptance of material at our site in good condition.
- 23. **Settlement of Disputes through Arbitration:** All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after their completion except accepted matters shall be settled through arbitration process as per the Arbitration & Conciliation Act, 1996. The venue of arbitration shall be Mysore, Karnataka
- 24. **Legal Jurisdiction:** The Courts of Mysore (Karnataka State) shall alone have jurisdiction to decide on any legal matter of dispute whatsoever arising out or in respect of the contract.
- 25. **Force Majeure:** In the event of any unforeseen event directly interfering with the supply of stores arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the Contractor shall, within a week from the commencement thereof, notify the same in writing to the Purchaser with reasonable evidence thereof. Unless otherwise directed by BNPM in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. If the force majeure condition(s) mentioned above be in force for a period of 90 days or more at any time, 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, save and except those which had occurred under any other clause of this contract prior to such termination.
- 26. **Fore-Closure Clause:** If at any time during the continuation of this contract, the use of material ordered in this contract is completely banned or due to drastic change in Government policy its use as, raw material is discontinued or is declared hazardous to public health or cause rising to civil commotion, epidemics, wide-spread strikes and 21 days' notice of such eventualities is given by purchaser to the seller, the seller without any right to enforce the contract, will agree to the fore-close the performance of balance portion of this contract and in that event no claim for damages or loss will be lodged against the purchaser.
- 27. **Rights of Rejection:** BNPMIPL reserves the right to reject any or all the applied bids without assigning any reason whatsoever. The enquiry can be rejected on national security grounds.
- 28. **Preference for Micro and Small Enterprises (*MSEs):** Public procurement policy for Micro and Small Enterprises (MSEs) order, 2012 as notified by Govt of India (GOI) along with its amendments as available in www.msme.gov.in shall be applicable to this tender.

I/we engage to supply the material(s) to your engineering store, BNPMIPL and comply the following:

- 1. Tender schedule and technical specification indicated.
- 2. Item/tender specific conditions for this tender.
- 3. Terms and conditions enclosed.
- 4. I/we confirm that set off for the GST, etc. Paid on the inputs have been taken into consideration in the above quoted price and further agree to pass on such additional duties as sets offs as may become available in future under GST, etc.
- 5. This offer is valid for 90 (Ninety) days from the date of opening of the tender.
- 6. That we have not been debarred by BNPMIPL/BRBNMPL/SPMCIL and any other Government/Undertakings (Annexure-B enclosed).

Signature & Seal	Name of Authorized
Place & Date:	Signatory:
	Tel. No./Fax. No./Mobile
Address:	No. Email
	Id:

Section III; Technical Specification

Chrome plating of paper roll surface after removing the old chrome plating completely.

Technical Specification:

Total length: 4022 mm
Face length: 2870 mm
Shell diameter: 214 mm
Finished diameter: 214.12 mm
Roll Shell Material: Steel

Coating Hardness : Steel
Coating Hardness : Steel
Coating Hardness : Steel
0.06 mm

SCOPE OF WORK

- 1. To & Fro transportation is under contractor scope only.
- 2. Removal of old chrome plating completely.
- 3. Surface preparation on the roll shell by repairing the rusted/corrode surface.
- 4. In case of any dent / depth is observed on the roll surface, the same shall be filled by welding and finished evenly along with the surface
- 5. On completion of roll with chrome plating the permissible eccentricity shall be maintained as 0.106mm
- 6. Grinding of roll with a finished diameter of 214.12 mm
- 7. Chrome plating of roll, hardness of the coating should be > 840 HV; thickness of coating should be 0.06mm.
- 8. BNPM reserves the rights to visit bidder's facility for chrome plating before placement of order.
- 9. Pre inspection of roll by BNPM representative and on getting clearance from BNPM, roll should be packed neatly with proper/suitable packing material and deliver the same at BNPM, Mysore. BNPM has right to waive off pre shipment inspection based on the situation and requirement.
- 10. Preferably bidder should have experience of chrome plating of rolls with following dimensions: a: Roll dia. ≥ 210, b: Face length ≥2800mm
- 11. Insurance for rolls would be in the scope of Bidder.
- 12. Roll details are enclosed as Annexure-D

(To be signed & stamped and submitted along with Techno-commercial Bid Part –I)

SECTION IV: QUALITY CONTROL REQUIREMENTS & COMPLIANCE STATEMENT

- 1. **Quality:** Quality is essence of this tender. The bidder shall supply the material as per the specifications mentioned in Technical & Material Specifications. The material supplied will be inspected at our factory. Quantity as ascertained on receipt of above material at our site will be treated as quantity supplied wherever the package/materials are received intact.
- 2. **Rejection:** Materials not meeting our specification will be rejected outright and the rejected material shall be taken back within 7 days at the cost and risk of the supplier and replacement should be made within 15 days from the date of intimation. No payment shall be made for rejected item.

A) Technical Compliance Statement:

S. No	Item	Whether agreed by the bidde	_
1	Technical Specification Total length : 4022 r Face length : 2870 r Shell diameter : 214 m Finished diameter : 214.12 Roll Shell Material : Steel Coating Thickness : 0.06 n Coating Hardness : 840 H	mm m 2 mm	
2	 (i) To & Fro transportation is under contractor (ii) Removal of old chrome plating completely. (iii) Surface preparation on the roll shell by reprusted/corrode surface. (iv) In case of any dent / depth is observed on same shall be filled by welding and finished eventurates (v) On completion of roll with chrome plating the eccentricity shall be maintained as 0.106mm (vi) Grinding of roll with a finished diameter of (vii) Chrome plating of roll, hardness of the coal HV; thickness of coating should be 0.06mm. (viii) BNPM reserves the rights to visit bidder's plating before placement of order. (ix) Pre inspection of roll by BNPM representate clearance from BNPM, roll should be packed in proper/suitable packing material and deliver the Mysore. BNPM has right to waive off pre shipm based on the situation and requirement. (x) Preferably bidder should have experience or rolls with following dimensions: a: Roll dia. ≥ 2 ≥2800mm 	the roll surface, the enly along with the he permissible 214.12 mm eting should be > 840 facility for chrome live and on getting eatly with he same at BNPM, hent inspection of chrome plating of	

B) **Commercial Compliance Statement**

Sl. No.	Features	Requirements of BNPMIPL, Terms & conditions	Whether Agreed by the firm	Deviation, if any
1	Payment Terms	As mentioned in Sl.No.22 of Section II	Yes agreed	
2	Liquidated Damages	As mentioned in Sl.No.20 of Section II	Yes agreed	
3	Risk Purchase	As mentioned in Sl No.21 of Section II	Yes agreed	
4	No. of pages	Total number of pages in Technical Bid		

ANNEXURE -A

Any bidder from a country which shares a land border with India will be eligible to bid in the tender only if the bidder is registered with the Competent Authority (The Registered Committee constituted by the Department for Promotion of Industry and Internal Trade)

- I) Bidder means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms, or companies), every artificial judicial person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person participating in a procurement process.
- II) "Bidder from a country which shares a land border with India" for the purpose of this order means:
 - a) An entity incorporated, established or registered in such a country; or
 - b) A subsidiary controlled through entities incorporated, established or registered in such a country, or
 - c) An entity substantially controlled through entities incorporated, established or registered in such a country, or
 - d) An entity whose beneficial owner is situated in such a country; or
 - e) An India (or other) agent of such an entity; or
 - f) A natural person who is a citizen of such a country; or
 - g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.
- III) The beneficial owner for the purpose of (iii) above will be as under :-
- 1) In case of a company or limited liability partnership, the beneficial owner is the natural person (s), who, whether acting alone or together, or through one or more judicial person, has a controlling ownership interest or who exercise control through other means.

Further explanation:

- a) "Continuing ownership interest" means ownership of or entitlement to more than twenty five per cent of shares or capital or profits of the company;
- b) "Control" shall include the right to appoint majority of the director or to control the management or policy decision including by virtue of their shareholding or management rights or shareholder agreements or voting agreements;
- 2) In case of partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more judicial person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- 3) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more judicial person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- 4) Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

- 5) In case of a trust, the identification of beneficial owners(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership
- IV) An agent is a person employed to do any act for any another, or to represent another in dealings with tired person.
- V) The successful bidder shall not be allowed to sub contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.
- vi) A bidder is permitted to procure raw material, components, sub-assemblies etc. from the vendors from countries which shares a land border with India. Such vendors will not be required to be registered with the competent authority, as it is not regarded as sub-contracting.
- vii) However, in case a bidder has proposed to supply finished goods procured directly/indirectly from the vendors from the countries sharing land border with India, such vendor will be required to be registered with the competent authority.

I have read the above clause regarding restrictions on procurement from a bidder which shares a land border with India. I hereby certify is not from such a country or, if from such a	that M/s
been registered with the Competent Authority. I hereby certify fulfills all requirements in this re	that M/s
eligible to be considered." (where applicable, evidence of valid registration by the Authority shall be attached)	
I, the undersigned, declare that the item originate in (country).	Name of the
Signature	
Name	
Designation	
Date	
Stamp of the Organization	
Authorized Signature with stamp & date	

ANNEXURE -B

e-Tender No: BNPM/OTE/CHROME PLATING/0220/2022-23 dated 01.07.2022

(To be submitted on the letterhead)

DECLARATION

We do hereby declare that,

- 1. We have not been blacklisted/ debarred by BNPMIPL/ BRBNMPL/ SPMCIL or any Govt. Departments. The information provided above is correct and true to the best of my knowledge and belief.
- 2. We do hereby declare that we have read and understood all terms and conditions of tender document including Technical Specification, Quality Control Criteria and confirm to abide to those conditions without any counter conditions.
- 3. The director/proprietor of the bidding firm are not closely related to BNPMIPL.

In case, at any time the information furnished is found to be false, you may disqualify/ debar me/ us as deemed fit.

Signature
Name
Designation
Date
Stamp of the Organization

ANNEXURE C

e-Tender No: BNPM/OTE/CHROME PLATING/0220/2022-23 dated 01.07.2022 (To be submitted on the letterhead)

We, the undersigned, declare that we will automatically be suspended from months, if we are withdrawing our Bid during the period of bid validity (or) fail / refuse to furnish the performance security / execute the contract, if awarded.

Signature
Name
Designation
Date
Stamp of the Organization

SECTION V: PRICE BID FORMAT (TO BE FILLED ONLINE THROUGH E-TENDER PORTAL)

Dear Sir,

Sub: Price bid for Supply of Chrome Plating of Roll Surface at BNPM Plant, Mysore

Ref: e-Tender No: BNPM/OTE/CHROME PLATING/0220/2022-23 dated 01.07.2022

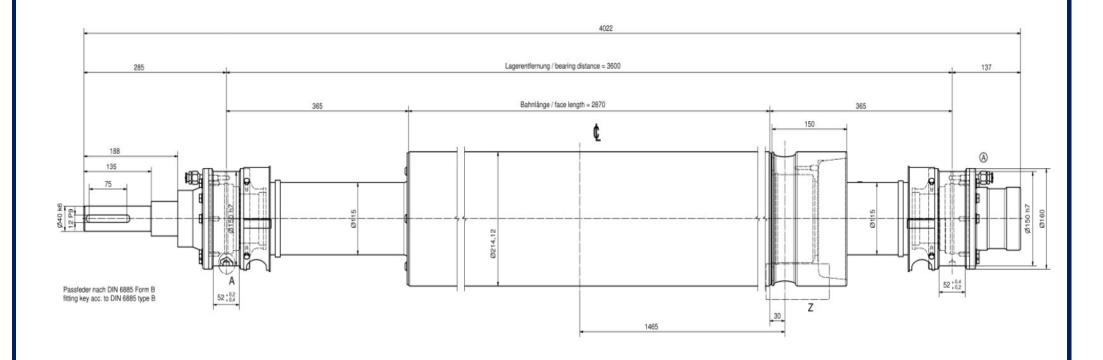
We have received and understood the above tender enquiry and are pleased to submit our price bid as under:

Sch. No.	Description	UOM	Qty	HSN/ SAC	Basic Unit price (INR)	P&F, Freight & Transit Insurance & any other charges(if any) per unit (INR)	Unit Price (incl. of P&F, Freight, Transit Insurance & any other charges (if any) excl. of GST) (INR)	GST (%)	GST on Unit Price (INR)	Total Unit Price (incl. of GST) (INR)	Less: Input Credit (GST) (INR)	Effective Unit Price (net of input tax credit) (F.O.R Mysore) (INR)	Total Effective price (net of input tax credit) (F.O.R Mysore) (INR)
			A		В	С	D=B+C	Е	F=D*E	G=D+F	H=F	I=G-H	J=I*A
1.	Chrome plating of paper roll surface after removing the old chrome plating completely	Nos	02										-
Total effective price (net of input tax credit) for Supply of Structural Items with freight, P&F, Transit Insurance and any other charges (F.O.R – BNPM, Mysore site) in Figures (INR)							1						
Total effective price (net of input tax credit) for Supply of Structural Items with freight, P&F, Transit Insurance and any other charges (F.O.R – BNPM, Mysore site) (in words) (INR)													

Note: Prices quoted above shall be FOR BNPM, Mysore site basis inclusive of GST, Packing & Forwarding charges, freight, transit insurance and all other charges if applicable less input GST. Overall Lowest Effective price shall be considered for arriving the lowest responsive bidder. However, PO price shall be inclusive of all charges on DAP BNPM, Mysore.

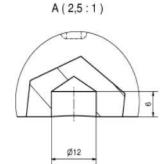
Annexure-D

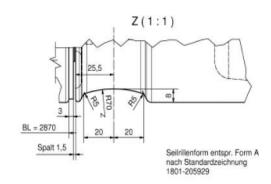
Paper Guide Roll:-



Paper Guide Roll:-

Details of A & Z





Tech Details:

1. Shell Material : S235 JRH

2. Coating / Thickness : Chrome (.06 - .08)

3. Total Weight : 361.00KG

4. Bearing : DS 22212EK C3

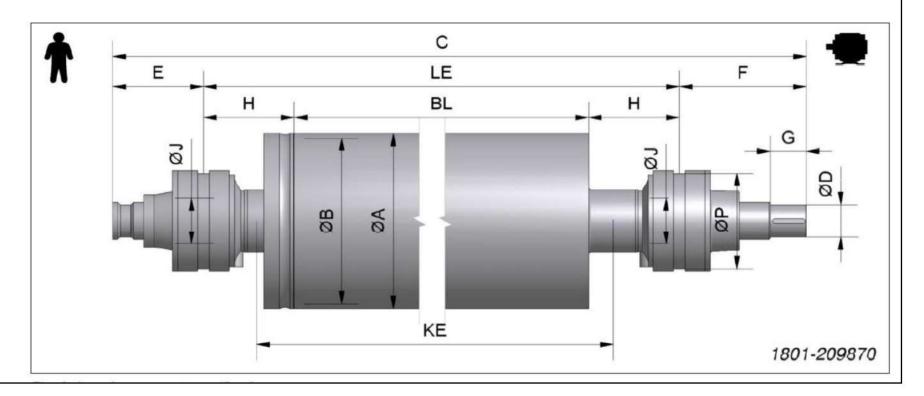
5. Bearing : NDS 22212EK C3

6. Lubrication : Grease

Roll for press Section

3.2.4 Driven paper roll

3.2.4.1 Component specifications



Press Section Roll tech details :-

Reference value	Value
A (outside diameter of the roll)	214.12 mm
B (outside diameter of the shell)	214 mm
C (total length)	4022 mm
D	40 mm
E	137 mm
F	285 mm
G	135 mm
Н	365 mm
J	60 mm
P	150 mm
BL (web length)	2870 mm
KE (crane pickup point)	3250 mm
LE (bearing distance)	3600 mm

Press SectionRoll tech details :-

Reference value	Value
Roll number / installation number	ROLL000057695 / RP407.01
Roll number / installation number	ROLL000057696 / RP407.03
Roll shell material	Steel
Weight of roll	310 kg
Total weight	361 kg
Design paper tension	1.0 kN/m
Paper tension during operation	1.0 kN/m
Covering/coating	
Quality	Chrome
Hardness	840 HV
Length	2870 mm
Thickness	0.06 mm
Bearing type	
Front side	222 12 EK/C3
Drive side	222 12 EK/C3
Balancing data	
Level of balance quality	1.6 mm/s
Balancing speed	120 m/min
Balancing rpm	178.4 min ₋₁
Permissible residual unbalance	171.3 g
Balancing radius	77.5 mm
Permissible eccentricity S1 (rotational frequency)	0.106 mm
Permissible eccentricity S2 (double rotational frequency)	0.106 mm