

# CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY, KORBA

Technical Specification - EXTRUDER RECYCLING MACHINE			
Sr.No.	Items	Units	Specification
1	Screw Dia	mm	70 - 80
2	L/D Ratio	--	20:1 - 22:1
3	Materials	--	PP,LDPE,HDPE,ABS,PS,HIPS,etc.
4	Output	Kg/hr	70-100
5	Temp.	°C	Upto 400
6	Feeding system	--	Suitable Main & Side Feeding systems
7	Gear Box	-	Helical gear box with inbuilt thrust bearing
8	Downstream equipment's	-	Please Specify
9	Air Blower Dryer (Preferred)	-	Air Blower Dryer required for drying strands before paletizing
10	Strand die	-	Specify number of strands
11	Stainless Steel Cooling Tank	-	Please Specify
12	Strand Pelletizer (Synchronized cutter to be Incorporated for Strand.)	-	Please Specify
13	Screen Changer / Filter	-	Hydraulically operated screen / filter changer
14	Standard Accessories	-	Please Specify
15	Mixing elements & others	-	Please Specify
16	Spares	-	Please Specify
17	Control- Microprocessor type	-	Microprocessor With display of Screw Torque & die Head Melt Pressure Please specify
18	No. of Screw Extruder	-	Single Screw Extruder
19	Total Connected Load	Kw	Please Specify
20	Training		One day Training should be provided after installation.
21	Scope of supply		Bidder should submit complete scope of supply (Machine, Manuals, standard accessories, Optional accessories etc with make model) in the technical bid. Bidder should supply complete start up package necessary to prove the machine and provide training.

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Technical Specification - Universal Testing Machine (2.5 T for Training)			
Sr.No.	Items	Units	Specification
1	Max. load capacity	kN	25 kN
2	Load cell	kN	25 kN, 5.0 kN, 1.0 kN, 0.1 kN
3	Load cell accuracy		≤ 0.5 %
4	Test speed	mm/min	0.01 mm/min to 500 mm/min.
5	Speed accuracy		± 0.2%
6	Cross head travel	mm	Min 800 mm
7	Horizontal daylight	mm	Min 400 mm
8	Strain measurement accuracy		0.5% or better
9	Load measured		Tension , Compression, Flexural
10	Tensile Grips		i) - Wedge grips Suitable for above loads Grips suitable for testing of Plastic films (rubber faceted Pneumatic type) ii) - Grips for Rigid Plastics (opening up to min.12mm) iii) - Grips for woven Sacks (up to 70 mm width-As per IS :14887 Latest version)
11	Fixtures		i) Flexural fixture complying to ASTM D 730 ii) Compressive Fixture complying to ASTM D 695 iii) Shear fixture complying to ASTM D 732 iv) Fixture complying to IS 4984-2016 (Plastics Butt Fusion Joints Test)
12	Extensometer	mm	i) Ready to connect long travel ii) Range 800 mm iii) Resolution : 0.1 mm
13	Applicable standards and Conforming to		ISO/R-527, ASTM D 638, 695, 790, 882, 412, 3039 and Equivalent standards
14	Power		230 Volt, 50Hz
15	Other Information		The machine is supposed to carryout testing on various type of plastic specimens and product samples as per IS and ASTM Standards as mention above. The sample involves FRP sheets, Plastic Pipe cut Pieces, Moulded Specimens of commodity, Engineering Plastics as per different standards.
16	Operating system &Software		Suitable for all functions such as maximum Load, strain, modulus etc. Necessary software Computer & Printer should be provided. 24-bit resolution card with data acquisition rate of minimum 500 Hz simultaneously on load, extension, and strain channels.
17	Calibration certificate		Calibration certificate for load cells and extensometer traceable to National / International Standards should be provided
18	Scope of supply		Bidder should submit complete scope of supply (Machine, standard accessories, Optional Accessories etc with make model) Bidder should supply complete start up package including material necessary to prove the machine and provide training.
19	INSTALLATION, COMMISSIONING AND TRAINING		
a	Installation and commissioning requirements		Bidder should submit the preinstallation requirements such as space etc., . State clearly the specifications of electrical requirement. Vendor should carry out installation and commissioning of the machine and its accessories on a turnkey basis.
b	Training and documentation		Minimum of 5 days training for five persons which includes basic & advanced level training. Training content and plan to be submitted. Training faculty must have adequate experience in this field. The vendor should supply the necessary manuals such as: i) Software instruction ii) Maintenance and trouble manual iii) Training iv) Installation and Commissioning v) Handling of accessories vi) Software key (if any) vii) Software CDs  NIST traceable/NABL accredited calibration certificates to be supplied

# CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY, KORBA

Technical Specification - CNC Wirecut EDM			
Sr.No	Items	Units	Specification
1	Type		Submerged
2	Dimension of Table (X,Y)	mm	X- min. 800, Y- min. 500
3	Axis Travel (X x Y), U & V Travel	mm	X- min. 500, Y- min. 400, U- 100 ±20, V- 100 ±20, maximum work piece height -300mm.
4	Tapper angle and height	°/mm	Upto 30° / 100 or better
5	Wire Charateristics		Dia. 0.25 mm ; Type of wire guide - Closed diamond type without clearance Protection against electrolytic effects- From roughing through to Finishing.
6	Max. cutting speed	mm2/min	150 or Better
7	Max. weight of the workpiece	Kg	>400
8	Max. Machining current	A	25 or better
9	Min. finishing (Ra)	µm	1 or better
10	Position measurement system/ Measurement resoulution		5 or better
11	Architecture		Std Input & output accessories- LCD 14" or above TFT TouchScreen , Key board , Remote control ; PC multiprocessors; Ethernet, USB ports, RS-232C Communication Ports.
12	Control System with software		Latest with complete module CNC controller (or OEM system) and Capable storage to store large part programs for continous running. Suitable software for programming and controlling.
<b>13</b>	<b>Essential Accessories</b>		
13.1	Chiller Unit		Bidder should quote and supply OEM/well known branded with make, model and major specification.
13.2	Wire chopper		
13.3	Servo stabilizer		
13.4	Ultra Isolation transformer		
13.5	Silent operation Air Compressor with drier		
13.6	Air gun with pipe		
13.7	Holding & Clamping Kit (Such as vice, angle plate, v block, Clamps,Extension clamps, C-clamps, etc.)		
13.8	Consumables		Minimum 10 Spools of coated wire and other necessary consumables.
13.9	Filters		2 sets of 10 micron filters or better.
13.10	Workstation		Suitable latest workstation for part programming.
13.11	Semi-Automatic Wire Feed Setup (Mandatory)		-
14	Others		Bidder to specify and quote if any other accessories available /required for smooth running of the equipment.
15	Terms & Conditions		The bidder must have supplied machines at other institutes in the past ( a satisfactory performance certificate from those user may be solicited if needed). Bidder should submit complete contact details.
			Manufacturer of the supplied equipment must be ISO certified.
			Manufacture/Supplier should have sizable installation of or better model worldwide and at least five in India.
			Equipment should be CE certified.
16	Training		Four days Training should be provided after installation.
17	Scope of supply		Bidder should submit complete scope of supply (Machine, standard accessories, Optional Accessories etc with make model) in the technical bid without price. Bidder should supply complete start up package necessary to prove the machine and provide training.

# CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY, KORBA

Technical Specification - Software Creo		
Sr.No.	Specification	
1	Latest version of Creo software with complete module of 2D, 3D Modelling, programming and FE analysis capabilities for product design, Engineering and manufacturing process.	
2	<b><u>GENERAL TERMS &amp; CONDITIONS</u></b>	
a	The Software should be supplied with latest version.	
b	The quote shall be supplied with reference to the module.	
c	Please mention the quote for Educational Bundle.	
d	The Software should be supplied in Suitable media for windows 8 or higher Version.	
e	Specify the license type: Network <b>Perpetual License / Subscription License</b> .	
f	<b>Warranty Period</b> : Five years from the date of acceptance of installation.	
g	The Installation and training will be the responsibility of the supplier.	
h	During the above period of warranty, any upgrades released shall be supplied free of cost (as per applicable for Perpetual License/Subscription License) .	
i	Annual Maintenance Contract charges in terms of percentage on the basic price for a period of FIVE years after the completion of Warranty period need to be quoted separately (as per applicable for Perpetual License/Subscription License) .	
3	<b>Any Others Accessories</b>	Bidder to specify and quote if any other accessories available/required for smooth running of the Software.
4	<b>Term and Conditions</b>	<p>Manufacture/Supplier should have sizable installations of same or better model worldwide and at least Five in India which is education institutions centrally funded institution.</p> <p>A Satisfactory Performance certificate from two institutions to be provided for eligibility.</p> <p>Bidder should submit complete contact details Authorization Letter from OEM List of clients in last three years to be provided.</p>
5	<b>Scope of Supply</b>	Bidder should submit complete scope of supply (Software, standard accessories, Optional Accessories etc with make model) in the technical bid without price. Bidder should supply complete start up package necessary to prove the machine and provide training.
6	<b>INSTALLATION, COMMISSIONING AND TRAINING</b>	
6.1	<b>Installation and commissioning requirements</b>	Bidder should state the any hardware requirements for installation of the Software (like specification of server and workstation). State Vendor should carry out installation and commissioning of the machine and its accessories on a turnkey basis.
6.2	<b>Training and documentation</b>	<p>Total training duration shall be of 07 days. Training shall be planned in two phases basic for 4 days and advanced for 3 days. Training content and plan to be submitted. Training faculty must have adequate experience in this field.</p> <p>The vendor should supply the necessary manuals such as Software instruction. Maintenance and trouble manual Training. Installation and Commissioning. Handling of accessories. Software key (if any). Software CDs.</p>
6.3	<b>Technical support and service</b>	Manufacturer should have established after sales & service network in India. The vendor shall have local service and application office and infrastructure to attend by visit within 48 hours of need. Technical support personnel must have adequate experience in this field. Technical support personnel details should be submitted. Name and address of the authorized service centre/ partner in India along with the certificate of authorization should be attached.

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Technical Specification - AutoCAD	
Sr.No.	Specification
1	Auto CAD 2020 or Latest version capable for 2D drafting, 3D Modelling, editing with mechanical tool sets.
2	<b><u>GENERAL TERMS &amp; CONDITIONS</u></b>
a	The Software should be supplied with latest version.
b	The quote shall be supplied with reference to the module.
c	Please mention the quote for Educational Bundle.
d	The Software should be supplied in Suitable media for windows 8 or higher version.
e	The license must be Network <b>Perpetual License/Subscription License</b> .
f	<b>Warranty/Subscription Period:</b> Three years from the date of acceptance of installation.
g	The Installation and training will be the responsibility of the supplier.
h	During the above period of warranty, any upgrades released will be supplied free of cost (as per applicable for Perpetual License/Subscription License) .
i	Annual Maintenance Contract charges in terms of percentage on the basic price for a period of FIVE years after the completion of Warranty period need to be quoted separately (as per applicable for Perpetual License/Subscription License).
3	<b>Any Others Accessories</b> Bidder to specify and quote if any other accessories available /required for smooth running of the Software.
4	<b>Term and Conditions</b> Manufacture/Supplier should have sizable installations of same or better model worldwide and at least Five in India which is education institutions centrally funded institution. A Satisfactory Performance certificate from two institutions to be provided for eligibility. Bidder should submit complete contact details Authorization Letter from OEM List of clients in last three years to be provided.
5	<b>Scope of Supply</b> Bidder should submit complete scope of supply (Software,standard accessories, Optional Accessories etc with make model) in the technical bid without price. Bidder should supply complete start up package necessary to prove the machine and provide training.
6	<b>INSTALLATION, COMMISSIONING AND TRAINING</b>
6.1	<b>Installation and commissioning requirements</b> Bidder should state the any hardware requirements for installation of the Software (like specification of server and workstation). Vendor should carry out installation and commissioning of the machine and its accessories on a turnkey basis.
6.2	<b>Training and documentation</b> Total training duration shall be of 07 days. Training shall be planned in two phases basic for 4 days and advanced for 3 days. Training content and plan to be submitted. Training faculty must have adequate experience in this field. The vendor should supply the necessary manuals such as Software instruction. Maintenance and trouble manual Training. Installation and Commissioning. Handling of accessories. Software key (if any). Software CDs.
6.3	<b>Technical support and service</b> Manufacturer should have established after sales & service network in India. The vendor shall have local service and application office and infrastructure to attend by visit within 48 hours of need. Technical support personnel must have adequate experience in this field. Technical support personnel details should be submitted. Name and address of the authorized service centre/ partner in India along with the certificate of authorization should be attached.