OFFICE OF THE EXECUTIVE ENGINEER
ANAND AGRICULTURAL UNIVERSITY
Anand

Name of work :- P/F laboratory platform in Agriculture college at AAU, Jabugam.

LABORATORY FURNITURE TECHNICAL SPECIFICATION:

POWDER COATED FURNITURE

MOC	The furniture is made of CRCA TATA Steelium / Essar Steel (Box Material)
GAUGE	The Storage Cabinet is made of 20 / 18 / 14 SWG
Finish	The material is finished with Epoxy polyester powder coating.
Bench Top	The top will be of 17mm (+/-) JET Black Granite (Premium)
Colour Choice	The available Colour shades will be:- Ivory & Blue
DETAILED SPECIFICATION:	
Pedestals:	Pedestal's horizontal members are made of *CRCA* ***14Gauge*** *Formed angle* supported by 30 x 30 mm SQ ERW tube of **18 Gauge**. Pedestal bottom is having adjustable levelling bolt with PP head to avoid scratch on floor. The pedestals are in black colour quoted with Epoxy Polyester Powder paint.
Storage Cabinets:	The storage Cabinets are made of CRCA **20 Gauge** (TATA-Steelium) / Essar Steel in panel construction. Cabinets will have sandwitched doors & drawers filled with profil. Capsal sheet lining on the edges of doors and drawers for sound deadning. The cabinets are inter-connected with spacer which strenghtenes the over all structure of the table / bench.
Door Hinges:	The hinges will be Godrej / MAPLA make or equvilent unless specified.
Drawer Glides:	The drawer should have Telescopic Glides for smooth movment
Handles:	Furniture should have *rust proof* ***Non-metaliic*** *PP handles* **.**
Valves / Water Taps:	The Laboratory Gas valves / Water Taps are made of *forged brass body* whereever required It will have ABS plastic knobs as per the ISI / International colour code. The valves are safe to use as per laboratory standards (GLP).
SINK:	CERA Sink 670mm x 470mm x 200mm model no 4002
GRANITE:	Jet Black Granite with 17mm (+/-1mm) thickness. All Granite joints will be filled in with Silicon sealent.
Electrical Socket:	Norysis make 6/16 Amps single phase with MCB switch
Powder Coating Process: (Nano technology:)	
Pretreatment :	Powder coating should be done in "Nanno Technology" in our pretreatment Process Plant which results in providing superior quality chemically treated surface parts prior to powder coating. By Controlling Various Process Parameters, We provide superior quality powder Coating finish to our valued customers. The Process Consists various tanks performing specific treatments as mentioned below.
Tank No. ① Hot Degreasing:	A Chemical in tank prepared with PROTOKLIN -301 D (Henkle Germany) a heavy duty alkaline cleaner for ferrous / non ferrous surfaces is used. A strong concentrated alkali chemical by Keeping alkalnity pointages more than 60 at the temp 60° c to 70℃ with dipping for 20 to 30 minutes, Article will be cleaned totally free from oil and grease components pH>9.
Tank No. ② Water Rinse→1 :-	Instead of using simple tap water for rinsing, DM water is used for rinse by adjusting water conductivity and pH<9.

Tank No. ③ Water Rinse→2 :-	This also consists the DM water for rinsing purpose so that parts get totally cleaned By adjusting pH<9 and conductivity 2 to 3 minutes rinse gives good clean surface.
Tank No. ④ Phosphating / Bonderizing :	Bondrite NT-1, Neutralizer 700 and Deoxidine 2520 (Henkle Germony Make) A suitable blend of above three chemicals which are ***Nano Technology chemicals*** is used for doing phosphating / Bonderizing on our pre-treated parts which gives excellent phosphate coating on parts, By controlling electric conductivity and pH A both, Article should obtain excellent phosphate coatings which gives suitable substrate before powder coating.
Tank No. ⑤ Water Rinse:-	DM water should be used for rinsing the metal components by dipping articles for 3 to 4 minutes at room temp. conductivity and pH of the bath is controlled.
Powder Coating:	After Pretreatment process, the article is hanged in powder coating spray booth which has effective efficiency for recovery of powder and with Hyper cyclon (HC) type powder recovery booth, After hanging the parts in spray booth, parts get powder coated by means of electrostatic spray guns which are having good electrastatic charges and powder transfer efficiency, having co-rona-classic attachment for superior finish Epoxy-polystar powder charged at 60-90 KV sprayed on articles by means of electrostatic spray guns (Statfield make).
Oven Baking:	After powder coating, the article is moved to our Relay burner Gas Fired oven and baked at 180℃ -200℃ for 15 minutes(powder Manufacturers recommendation)
Testings after powder coatings:-	
	Following testing should be conducted on test panel
	panels which are powder coated on 0.8mm CRCA sheet with 50 to 70 DFT as per powder manufacturers specifications as below,
① Adhesion test :	Cross hatch adhesion test DIN 53152 with 2mm cross cutter-excellent adhesion.
② Flexibility Bend Test :	As per DIN 53152 on conical mandrel - No. Cracking 4 film surface.
③Impact Test:-	ASTM 2794 - observed more than 40 lb.inch on coated sample.
④Coating Thickness	ASTM D1186 with Elcometer: More than 60 microns (DFT)
⑤ MEK test	for curing of powder film-No Fading of film.
⑥ Salt spray test	ASTM B 117-21 to pass for 300-500 hrs (AS per Manufacturers Re-commendations).
⑦ Scratch Resistance	More than 2kg on coated surface.

બાંધકામના ટેન્ડર ભરનાર ઠેકેદારો માટે Special condition(Service Tax)

કેન્દ્ર સરકારના નાણાંવિભાગના પ્રવર્તમાન નોટીફિકેશન સંદર્ભમાં વર્કસ કોન્ટ્રાકટ માટે લાગુ થયેલ સર્વિસ ટેક્ષ ચુકવણાની જવાબદારી ઈજારદારશ્રી (Contractor)ની રહે છે. જેથી ઈજારદારશ્રી ધ્વારા ભાવો ભરતી વખતે સર્વિસ ટેક્ષની રકમ ધ્યાનમાં લઈને ભાવો ભરવાની કાળજી લેવાની રહેશે, જેની નોંધ લેવી. કાર્યપાલક ઈજનેરશ્રી, આણંદ કૃષિ યુનિવર્સિટી, આણંદ ધ્વારા સર્વિસ ટેક્ષની ચુકવણી તથા પુનઃચુકવણી (Reimbursement) કરી આપવામાં આવશે નહિં તેમજ કાર્યપાલક ઈજનેરશ્રી, આણંદ કૃષિ યુનિવર્સિટી, આણંદ ધ્વારા થનાર ચુકવણા ભરેલ ભાવોની મર્યાદામાં જ રહેશે. જેની ખાસ નોંધ લેવા જણાવવામાં આવે છે.

Agency sing. Executive Engineer