

ANNEXURE - I

TECHNICAL SPECIFICATIONS

1. Specifications For Flex Substrate And Vinyl To Be Used For Signage:

1.1. **FASCIA - FLEXIBLE SUBSTRATE** : The properties are given in Table 1. It shall have UV resistors added while manufacturing to prevent the whiteners turning yellow due to constant exposure to UV rays. The flexible substrate shall be guaranteed for 5 years to retain the white colour (i.e. yellowing), plasticizer migration, wicking for a period of at least 5 years and similarly the vinyl shall be guaranteed against peel off, fading, shrinkage, cracking and crazing.

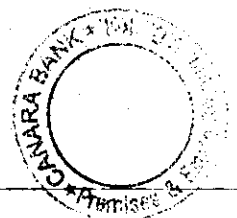
1.2. **GRAPHICS** : Graphics shall be computer-cut with translucent cast vinyl matching the Canara Blue and Canara Yellow colour. The colour specification for the signage : Pantone Process Blue C or equivalent and Pantone 1235 or equivalent - Properties as per Table 2.

SL	DESCRIPTION	WARRANTY
1	FLEX-3 M MAKE CODE P2	5 YEARS
2	VINYL- 3M MAKE CODE P2	5 YEARS
	BLUE-3630-175 YELLOW-3630-75	
3	TIMER - L & T	1 YEAR
4	STRUCTURE 18 GAZE	5 YEARS
5	WIRE ISI GRADE	-----

1.3. **TABLE 1 - PHYSICAL PROPERTIES OF FLEXIBLE SUBSTRATE (FLEX) :**

Property	Metric Unit (Range)
Service Temperature range	-20* to + 70°C
Light Transmission(Opacity)	24% - 26%
Tensile Strength Range	
Tear weft (Cross Direction)	Minimum 15.50kg/cm
Tear Warp (Machine Direction)	Minimum 17.00kg/cm
Tear Weft (Cross Direction)	Minimum 20.00kg/cm
Tear Warp(Machine Direction)	Minimum 26.00kg/cm
Characteristics Substrate	Polyester scrim embedded in a white pigmented Vinyl.
Thickness and weight	0.050 cm to 0.070 cm - Weight 700 gsm to 800 gsm

1.4. **WATERMARK** : The Flexible substrate should have the watermark of the manufacturer on the second surface. The flexible Substrate not having watermark will get disqualified.



1.5. TABLE 2 - PHYSICAL PROPERTIES OF TRANSLUCENT VINYL :

<u>Property</u>	<u>Metric Unit (Range)</u>
Tensile Strength	0.8-0.9 kg/cm at 23°C
Applied Shrinkage	Maximum 0.5mm
Service temperature range	-40°C to +75°C
Adhesion Strength (Acrylic and uncoated, clear Polycarbonate)	0.7 kg/cm
Film Characteristics	
Film	0.050mm, translucent vinyl
Thickness (Film & Adhesive)	3 to 4 mil (0.08 to 0.105mm)
Adhesive type and color	Permanent Clear Pressure Sensitive Adhesive
Liner	Synthetic/Poly coated Liner or equivalent subject to submission of certificate in this regard from reputed testing centre.
Application surfaces	Flat, without rivets
Minimum application temperature	16°C

1.6. SIGN BOX SPECIFICATION :

1.6.1. SIGN CABINET STRUCTURE - FRAME WORK : The box frames should be made in modules of 10 to 20 ft or approximately as per site conditions. Each box frame should have MS square pipe of 1 inch by 1 inch as basic structure acting as runners along the length, height & width of the box. The MS square hollow pipe has to be in square cross section of 1 inch by 1 inch and 16 gauge thickness for mainframe and 18 gauge thickness for cross sections (bracings). The width of the framework shall measure 10 inches outer to outer. In metro/urban centres where branches /office es/ATMs are at very prominent roads and the fascia of the premises/entrance portico where there is scope for covering all the three sides, the signage shall be designed for the full length approximately, which can be even to an extent of 40 to 50 RFT, with the board taking a curved U shape without any joints. The designs of such signages shall be got specially approved from the Circle Office before fabrication.

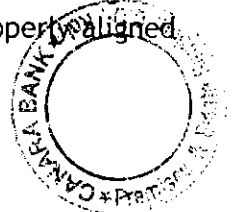
1.6.2. SIGN CABINET SUPPORT : The sign cabinet should be provided with suitable arrangements for fixing to existing wall surface or existing supporting structures available with suitable clamps, brackets, anchor bolts etc. The arrangements should be adequate to support the weight of the cabinet and to keep it firmly in position. Nothing extra will be paid for fixing the cabinet in position.

1.6.3. WELDING SPECIFICATIONS: Branded welding rods should be used for welding the joints. Welding rod should be preheated prior to welding. Preheating the welding



rods enables uniform and smooth flow of the welding material in the joints. If welding is done with preheated rod there will be no formation of open fissures in the joint due to smooth flow of welding material. Open fissures cause weakening of joints. Welding has to be done across the full cross section of the MS hollow pipe. Equipment for preheated welding rods is a single phase electrical heater, which has a space to store and heat the welding rods.

- 1.6.4. PROTECTION OF THE FRAME:** The entire frame of the sign cabinet post welding has to be grinded around the welding joints to remove spurs and undulations if any created during welding. Post grinding the joints, the MS pipe has to be painted with zinc chromate primer and 2 coats of synthetic enamel paint of white shade.
- 1.6.5. SIGN BOX BACK PANEL :** Back Panel of the box should be covered with pre-coated GI sheet of 22 gauge. Back cover should be painted white.
- 1.6.6. SIGN BOX TOP, BOTTOM AND SIDE PANELS :** Top panel of the box should be covered with aluminum sheet 1.5mm thick powder coated with minimum 60 microns thickness in approval shade on outside and white inside. The powder coating shall be uniform in shade and thickness and of good quality. The top panel should incorporate a drip cap of 25mm extension bent downwards at about 50 degrees from the edge using shearing machine for uniform look. The side and bottom panels of the box should also be of same material as the top and finished in a similar manner. Side panels should be suitably machine pressed/punched to make fins/slits to dissipate the heat generated. The slits should be such that water should not enter inside. The cutting and bending of sheets shall be done in a machine to get uniform straight edges. The top and bottom panels should be removable for maintenance purpose. The aluminium sheet metal which shall be provided to all four sides shall be joint free.
- 1.6.7. FASTENERS :** The fasteners used shall be uniform and at such spacing that it does not spoil the appearance of the signage looking from the bottom or the sides. The head of the screw shall have capping of stainless steel.
- 1.6.8. SIGN BOX TENSIONING SYSTEM :** A suitable tensioning system should be used for stretching flexible substrate on the front part of the sign box. The system should be such that the stretching of the flexible substrate is uniform across the face of the sign box and is not overstretched. To ensure that the flexible substrate is tensioned uniformly an extruded aluminium tensioning system with Allan key or Milliken aluminium tensioning system with rubber beading should be adopted. The sign face shall be tensioned with tensioning system all along the length and width of the sign.
- 1.6.9. PROCESS OF PASTING VINYL STICKERS OVER THE FLEX SUBSTRATE :** The process of pasting vinyl stickers over the flex substrate shall be undertaken with all care and techniques such as using pre mask tapes to the vinyl before initiating the fixing of the same over the flex, it shall be ensured that vinyl is properly aligned.



to the flex without any gaps at the outer edges, there are no air bubbles, etc..The workmanship shall be of high standards and engineering.

1.6.10. FIXING OF THE SIGNAGES AND SAFETY AT SITE : The signage solution providers and /or their convertors shall duly assess the site condition for fixing securely by appropriate means using necessary clamp, hooks, fasteners and including minor civil works necessary at site. The entire signage so fixed at site shall withstand high wind pressures depending upon the actual locations/floor in which it is installed. It shall also be the responsibility of the signage solution provider or their convertors for :the safety of the installation, the signage till they are billed and accepted by the bank. While executing the work the labour force used shall comply to labour laws and all necessary safety measures shall be undertaken like using scaffolds, ladders, safety belts, halmets, gloves, appropriate tools are only utilized. Suitable precautions shall be taken against overhead power lines, slippery surface or such other hazards which may be in the close proximity to the premises/site. Any damages to the signage during the process of installation will result in rejection of the signage and the same shall be replaced at their own cost.

1.7. ELECTRICAL COMPONENTS :

1.7.1. The sign should be fitted with 36-40 watt fluorescent tubes of Philips/Osram/Lumilux/Ge Polylux with colour rendering index of more than 80%.One tube light for every 4 Sq.Ft. or part of the signage area shall be provided. The tubes shall be fixed horizontally and inter connected with electrical wires of 3/20 or more considering the total no. of light fixture interconnected.

1.7.2. Minimum overlap of the tube light should be 75mm to prevent dark bands.

1.7.3. The fluorescent tubes should be held to the box frame with nickel coated, spring clips or plastic molded fixtures ,riveted to the stiffeners in the rear side of the box.

1.7.4. Distance between the tube lights should be uniform across the rows.

1.7.5. Low loss, slim type, copper chokes of same make should be used for each of the tube lights.

1.7.6. Good quality insulated copper wires (ISI marked) should be used for all electrical connections.

1.7.7. Connectors made from moulded plastic should be used to connect wires .No wire should be connected by tape or left open.

1.7.8. For each installation of backlit signages i.e. each branch/office premises or an independent ATM the electrical system shall be by way of an independent factory made distribution board (DB) consisting of 1 no. Input/output double pole MCB of 10/16 amps capacity(according to the total wattage of the light



fixtures) along with an automatic Timer (L & T make) for automatically switching on and off the sign board. Each such DB with timer will be paid separately. In the event of one DB controlling all the signages of a branch/premises and onsite ATM within the same premises, it will be treated as one unit only.

1.7.9. Permanent wiring by way of 2 runs of 7/20 copper wire + 1 run of 3/20 copper wire for earthing of 660/1100 Volts grade of ISI approved make through 19mm dia PVC conduit using required at site from the electrical panel [Distribution Board - (DB)] at the premises to signage. Such DB shall be placed inside the premises at the nearest possible place. Separate payment will be made on running length basis from the electrical source to DB and from DB to signage.

2. Specifications For Vertical Back-Lit :

The specification for the vertical back-lit signage cabinet shall be same as item no.1 of price -bid i.e. back-lit signages , except for the back GI sheet. The flex and vinyl as specified in Table - 1 & 2 should be provided on both the fascia and the tensioning system shall be similar on both the sides. All other aspects remaining the same with regards to electricals , fasteners, installation at site shall be perpendicular to the wall and aesthetically and symmetrically positioned along with the main back-lit signage board with necessary concealed hooks/brackets fabricated and fixed firmly and safely as detailed above.

Though the flex and vinyl will be on both the sides , for the purpose of the measurement ,it will be measured on basis of the size of the signage box i.e. the unit of measurement will be only on one side (Height x Breadth)

3. Specification For Non-Lit Signages For Rural Branches And ATM's :

3.1. The specifications shall be as per Table below:

Fascia	Flexible Substrate : The properties are given in Table 1. The graphics to be computer cut with translucent cast vinyl matching the Canara Blue and Canara Yellow colour. The colour specification for the signage :Pantone Process Blue C and Pantone 1235 .The other properties of the Vinyl shall be as per Table 2.
Sign Cabinet	M S Square Pipe of 1'' x 1'' cross section and 18swg thickness duly painted with one coat of anti rust paint and two coats white enamel paint. A vertical runner of 1'' x 1'' to be used at every interval of 2.5 rft. to provide the required support. 22 swg GI sheet spray painted inside and outside fixed to the frame at the back to avoid accumulation of dust and water. Reverse L angle of Aluminium of 1'' x 1'' powder coated to be fixed all round the frame and apply silicon sealant on all the sides to the back to avoid water or dust seepage.
Tensioning	The Sign face should be mounted on L angle of 1'' x 1'' Aluminium



	extrusion on the front of the frame.
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Note : The physical properties of the flex substrate and translucent vinyl should be the same as given in Table -1 & Table - 2 respectively. The fixing of vinyl over the flex substrate shall be as per 1.6.9, fixing of signages and safety at site shall be as per 1.6.10.

4. **Standards** : All the materials shall conform to the required standards & safety aspects as specified in relevant ASTM/BIS standards wherever applicable.

5. **Warranty** :

5.1. On completion of work, the convertor must submit a warranty document from the Principal Manufacturer having direct presence in India (not liaison office/dealer/Representative Office/Distributor/Agents/Reseller/Importer) of the translucent vinyl and the flexible substrate.

5.2. Payment shall be released only after certification by Branch Manager/Office Head and after receipt of a valid warranty, enclosed with photograph of the signage.

5.3. Every bidder should provide a Comprehensive unconditional Warranty for the complete signage for a period of 5 years. It should cover not only the basic materials (except electrical firings) used for the manufacture of the signage but also the fabrication and erection. The flex and Vinyl should be warranted against Yellowing / Graying of Flex, Wicking of flex, Fungus or Mildew formation, Vinyl peel-off, fading, shrinkage, cracking and crazing.

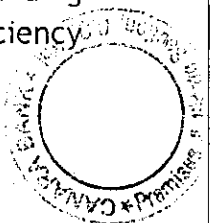
5.4. The Authorised personnel of the Indian Subsidiary/branch of the Principal Manufacturer should validate the Comprehensive Warranty with the Name clearly indicated and signature provided for the same.

5.5. The Convertor should be an Authorised Convertor of 3M (Principal Manufacturer) of the translucent vinyl and the flexible substrate.

5.6. The convertor must carry Authorisation letter from the principal company.

5.7. The warranty should be applicable for all Indian weather and dust conditions without any sub clauses for high Traffic areas/high pollution areas/ high temperature areas. This means that there should be tested field warranties and not just product warranties.

5.8. The warranty should provide for 100% replacement of the signage including processing, labour and fixing charges against any failures/defects/deficiency.



during the entire warranty period. The warranty claim would not be settled on prorata basis. The final bills would be cleared only on submission of the warranty documents that fulfil all the conditions.

5.9. The electrical wiring & fixtures such as Tube lights, Chokes & connectors will have replacement warranty for one year from the date of installation.

5.10. The authorised convertor is bound to visit the site and rectify defects as and when demanded by Bank free of cost during the defect liability period.

