Shell

MCF/RBL

Section: - Roof

1. Brazing used to welding of..... & ..... in LHB shell

Ans. Roof bearer & side wall

2. Thickness of roof sheet in centre.....

Ans. 1.7mm

3. Main alloy of corrosion resistance in stainless steel is.....

Ans. Chromium

4. What is the percentage of Argon in pure Argon cylinder using for brazing in shell shop?

Ans. 99.99%

5. Percentage of chromium in austenitic steel.

Ans. 18% to 20%

6. Percentage of nickel in ferritic steel.

Ans. 8% to 10%

7. Which series of AISI refers to ferritic steel?

Ans.400 series

8. Full form of SIS

Ans. Synchronized innovation system

9. Full form of PSL.

Ans. Product structure list

10. How many ventilators in LGS/LWS coaches (roof)?

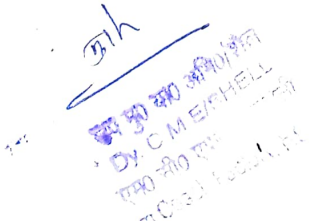
Ans. 07

11. How much force used in spot welding machine in roof section?

Ans. 6 to 10 Bar

12. Which type welding used to weld roof sheet & roof arch in roof section?

Ans. Spot welding



13. Thickness of fan bracket fitted in non-AC coaches

Ans. 4mm

14. What is the thickness of welding wire to weld roof sheet?

Ans. 0.8mm/1.0mm

15. How many cross brace fitted in LWACCN coaches?

Ans. 09 Nos.

16. How many roof arches used in LWACCNE roof?

Ans. 32

17. Expend WPS

Ans. Welding procedure specification

18. Thickness of front sheet used in LWACCN roof

Ans. 04mm

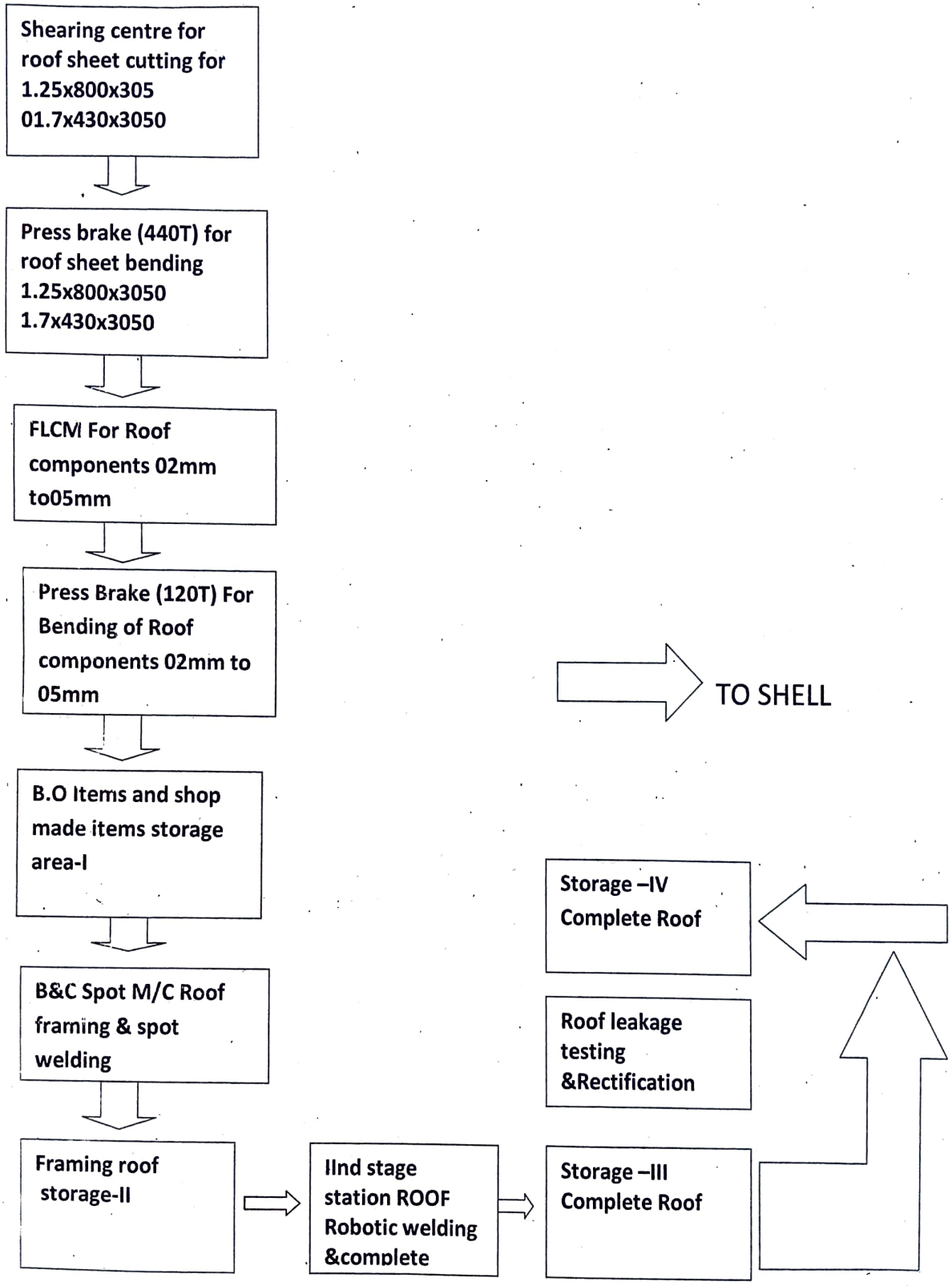
19. Thickness of roof arches in LWACCN roof.

Ans. 2.5 mm

20. Which item use for checking of roof leakage?

Ans. Red Oxide primer with kerosene or DPT

FLOW CHART OF ROOF SECTION



1. Angle of taper at the end of end. well width with respect to width of shell — 2.5° or 70 mm.

2. Length of shell over coupler — 24000mm.
over body — 23540 "

3. filler wire dia while Mig welding in shell Assly — 1.0 or 1.2 mm

4. MIG stands for — Metal Inert Gas.

Arg. 90%. CO_2 5%. O_2 5%.

5. Which gas is used as shielding (MIG welding) — Tri gas.

6. Which type of FE is used to extinguish the fire caught by gas — AB type.

7. What is side wall sheet thickness? — 02 mm.

8. What is thickness of sheet of roof? — 1.25 & 1.70 mm.

9. Capacity of EOT. Crane to unload the jig - 20T.

10. Which gas is used for skin tensioning — oxy acetelene.

11. The section of body pillar in LHB — 'Z' type shape

12. Type of CBC used in LHB coaches - Claw type AAR-H tight lock.

13. Which type of welding is used to join trough floor and cross bearer/member. — plug welding.

14. 21C043 Stands for - 21. Manufacturing year of shell
C. 3T. type of shell.
043. Sr. No of the type of shell.

15. Material of rod for filler while brazing — brass.
Melting point for brazing 980°C.

16. Which state of material is plasma — 4th stage.

17. Thickness of roof flange - 4 mm.

18. Horizontal swing of CBC. — 17.85° or 110 mm.

19. Vertical " " " — 7° or 90 mm

20. Gas used in DCP type FE – CO_2

21. which gas is used for brazing in MCF - pure Argon.

22. Side wall member and pillar's thickness – 2.5 mm.

23. Name of the welding between side wall and sole bar – Tractor welding.

24. The primer used for side wall – sole bar.
Weldable aluminium based primer.

25. DPC of 30 l water tank bkt – 08 Nos.
in AC. 2T/3T.

26. Width of shell – 3240^{-8}_{+0} mm.

27. height of vest door – 1867^{+4}_{-0} mm.

28. Dpc of venturing – 04 Nos.

29. Ht. of main entrance door – 1867^{+4}_{-2} mm.

30. Width of – 825^{+5}_{-1} mm.

31. Ht. of WTCC – 734^{+4}_{-0} mm.

32. Width of end well – 3100 mm.

MCF/RBL

Section: - Side Wall

1. What are the types of skin sheets uses in coaches?

Ans. There are following sheet uses in the coaches along with their thickness

Variant	Thickness
a) LWACCN –	02 mm
b) LWACCW –	02 mm
c) LWFAC –	02 mm

Etc.

2. What is the capacity of LCWM machine?

Ans. 1.25 mm to 03 mm sheet can be processed.

3. What type of gases use in LCWM?

Ans. N_2, O_2, He and Argon

4. What types of equipment are used to move the sheet (skin) from LCWM to traversor and traversor to side wall jig along with their capacity?

Ans. Over head crane 05T and lifting tackle 1.5T

5. What are current & voltage setting of robotic MIG welding machine used in side wall?

Ans. For 2.5mm to 2.5mm thickness – voltage 20 to 22 V, current up to 140 Emp.

6. Describe the various type of welding defect?

Ans. (a) Porosity (b) Under cut (c) Blow holes (d) Slag inclusion (e) Incomplete penetration etc.

7. What are the wire uses in robotic MIG welding machine?
   Ans. Stainless steel wire 1.2 mm.
8. What are the current, voltage setting uses in robotic spot welding machine?

Ans. 3 phase 440V and current 14kA

9. What pressure used in gun of robotic spot welding machine?

Ans. 05 to 06 Bar.

10. What is the length of side wall kin sheet?

Ans. 18128 #22

11. Under what torque is applied on the skin sheet during framing of side wall?

Ans. 80NM

12. What are the safety equipment uses by the welders during the welding?

Ans. Welding helmet, apron, arm sleeve, leg guard, leather hand gloves, nose mask, ear plug & safety shoe.

13. Which type of gases use in MIG welding and their composition?

Ans. Try mix gas (Ar-90%, CO_2-5%, O_2-5%)

14. Which type of gases use in brazing welding and their composition?

Ans. Pure Argon

15. How many stages working in the side wall?

Ans. (a) Framing

(b) Spot welding

(c) MIG welding

(d) RB fitting & brazing

(e) Back piece

(f) Final inspection

16. What type of steel uses in side wall skin sheet, roof flange, horizontal member & pillar?

Ans. ferritic stainless steel

17. What is the distance between carline top & vertical pillar?

Ans. 2383#2

18. What is width of all variant skin sheets?

Ans. 1995 (+2) #

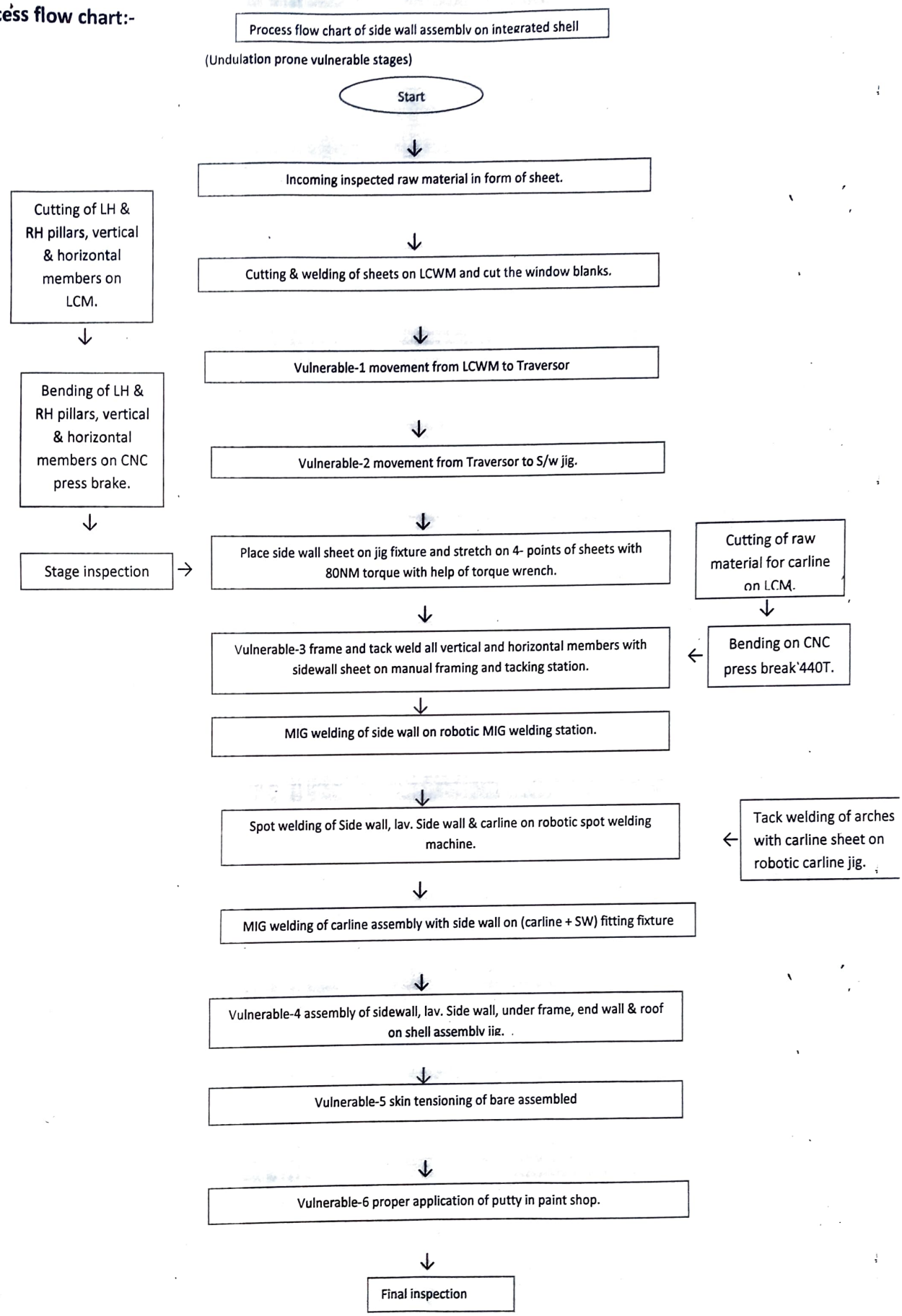
19. What are the radius and dimension of window profile of LWACCN and LWACCW?

Ans. Radius -132mm, length – 1180 (+2) #mm and width – 760 (+2) # mm

20. What is the thickness of arches uses in carline?

Ans. 2mm and 4mm

Process flow chart:-



Under frame / Shell shop.

1. Arc-welding uses following electric supply .....

A.A.C.
B.D.C.
C.Both AC and DC
D.Spiral waveform

2. The most commonly used flame in gas welding is.....

A.Neutral
B.Oxidising
C.Carburising
D.All of the above

3. Distortion in welding occures due to.....

A.Use of excessive current
B.Improper clamping methods
C.Use of wrong electrodes
D.Oxidation of weld pool
E.Improper composition of parent material

4. In MIG welding, the metal is transferred in the form of.....

A.A fine spray of metal
B.Molten drops
C.Weld pool
D.Molecules
E.Very fine metal

उप मु0 प्र0 अभि0/शैल
Dy. C M E/SHELL
एम0 सी0 एफ0 रायबरेली
Modern Coach Factory, Re

5.In reverse polarity welding.....

A.Electrode holder is connected to the negative and work to positive
B.Electrode holder is connected to the positive and work to negative
C.Work is positive and holder is earthed
D.Holder is positive and work is earthed
E.Work is negative and holder is earthed

6. Arc stability is better with.....

A.AC welding
B.DC welding
C.Both AC with DC welding
D.Specially designed wave forms
E.Rectified supply

7. In arc welding, if arc is too short, it will result in.....

A.Electrode sticking to the base metal and base metal not melting and bead resting on top of the work, leading to poor fusion and gas and slag holes
B.Formation of large globules in an irregular pattern because of wandering of arc, leading of poor fusion with base petal
C.Arc extinction
D.Operator hazard
E.No welding

8. Too low welding current in arc welding would result in.....

A.Excessive piling up of weld metal, poor penetration, wasted electrodes
B.Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
C.Too small bead, weak weld, and wasted electrodes
D.None of the above

9. Too high welding current in arc welding would result in.....
A.Excessive piling up of weld metal, poor penetration, wasted electrodes
B.Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes

C.Too small bead, weak weld, and wasted electrodes
D.None of the above

10.Too fast welding speed in arc welding would result in.....

A.Excessive piling up of weld metal, poor penetration, wasted electrodes
B.Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
C.Too small bead, weak weld, and wasted electrodes
D.None of the above

11. Too slow welding speed in arc welding would result in.....

A.Excessive piling up of weld metal, poor penetration, wasted electrodes
B.Excessive spatter, under cutting along edges, irregular deposits, wasted electrodes
C.Too small bead, weak weld, and wasted electrodes
D.Excessive pillling up of weld metal, overlapping without penetration of edges, wasted electrodes

12.Which increases the porosity on the weld?

1. Contaminated surface
2. improper gas shield
3. presence of moisture
4. all of the above ✓

5. 7. EOT crane has ..... Motion.
(a) 02 (b) 03 (c) 04 (d) 08

13-how many robotic mig welding station in robotic under frame line .

1-10 2- 9 3- 12 4- 11

14-dia meter of filler metal used in robotic mig welding station in under frame .

1- .8 mm 2- 1 mm 3-1.2 mm 4- 1.6 mm

15-over all length of under frame is

1-23440mm 2- 22710 mm 3-14000 mm 4-22740 mm

16- name of robot in robotic under frame line

1- Fanuk 2-I robot 3-grey Orange 4- Locus Robotics

17-what type of language used in welding of under frame at robotic welding station.

1- Point to point karel 2 c++ 3- fortran 4- non of thses.

18-what is the function of cbc .

2- Connecting two coach 2- energy transfer 3-load transfer 4- all

19-what is the pre heating temperature of console before welding as per MCF WI.

1-50 to 60 2-90 to 110 3- 80 to 100 4- 150-170

20-What type material used for fabrication of under frame.

1-CS ASS 2- CS ,ASS, CI 3-CS ,FSS,ASS , 4-ASS FSS CS