SOURCES OF ERRORS

1)Failure to properly clean the tack nail heads, causing the solder to loosen and form weak joints.

2)Applying too much solder on some tack nails, leading to running out of solder wire and resulting in some cables being loosely held.

3)Oxidized soldering cartridge – If the soldering cartridge suffers from oxidation, the wetting capabilities are severely hampered due to the barrier created by oxidation, impacting the smooth flow of solder and the wetting process.

4)Inadequate heating temperatures – Both underheating and overheating soldering joints are detrimental to the wetting process. Underheating prevents the solder from reaching optimal fluidity, impeding adequate contact with the component. Overheating causes the solder to burn off as vapor, also impeding the wetting process.

CONCLUSION

This exercise highlighted the importance of proper preparation and technique in soldering to achieve strong, reliable connections. Proper cleaning of materials, appropriate solder application, and control of soldering temperatures are crucial for successful soldering.

RECOMMENDATIONS

1)Ensure the heads of the tack nails are properly cleaned before the soldering process.

2)Ensure proper allocation and distribution of soldering wire on the tack nails.

3)In case of oxidation, allow the soldering gun to cool and file it to remove the barrier.

4)Preheat the soldering iron to the appropriate temperature to properly melt the soldering wire. Monitor for overheating and allow the soldering iron to cool if necessary.

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REFERENCES

https://www.scribd.com/document/656005820/WORKSHOP-REPORT
https://en.wikipedia.org/wiki/Soldering
https://en.wikipedia.org/wiki/Filler_metal