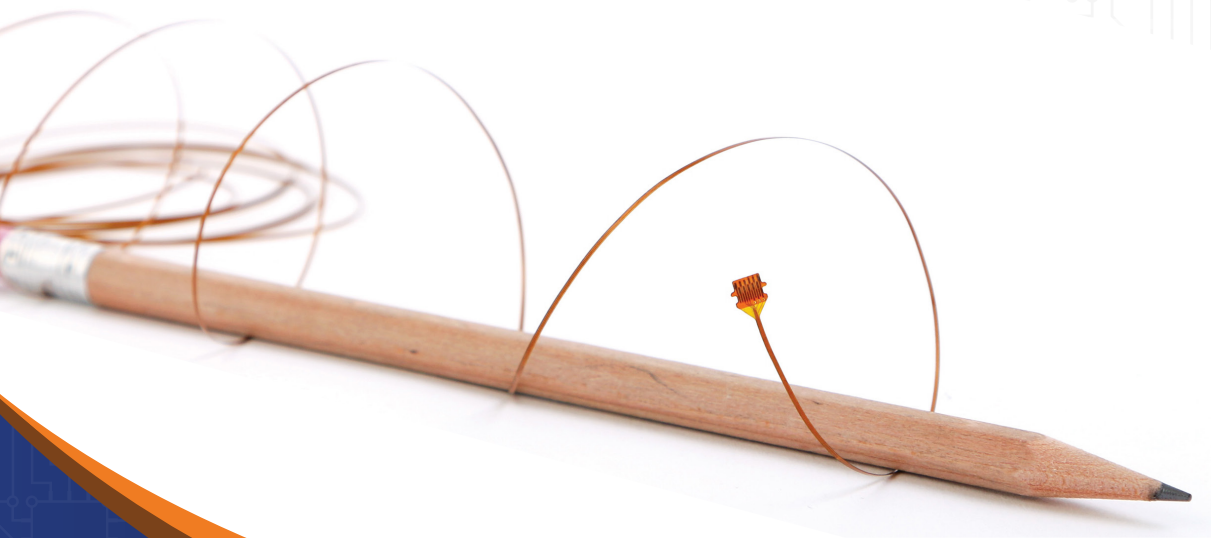




Reducing Catheter Assembly Time with CatheterFlex®



FLEX | RIGID FLEX | HEATERS | ASSEMBLY

All Flex Solutions Inc. | Phone: (612) 351-6009 | Toll-Free: (866) 341-4815



Application:

All Flex's CatheterFlex® can help reduce catheter assembly time by up to 90%.

With technology advancing and catheters requiring more enhanced features, assembly time for these devices is going up. All Flex has been working with several Catheter manufacturers to reduce assembly time and increase throughput by replacing traditional wires with our CatheterFlex® flexible circuits. Below are two examples of CatheterFlex® solutions we were able to provide to our customers.

Benefits of CatheterFlex® circuits include:

- **Easy to String-** Avoid wire entanglement and only have to pull one circuit through the catheter rather than multiple wires. Robust stringing features can be designed into the flex circuit board as well.
- **Eliminate Interconnects in the Distal End-** This improves the reliability and reduces assembly time.
- **Fast Termination Methods-** We offer a variety of termination options including ZIF, solder pads, through holes, connectors, lap soldering and more.
- **Easy to Test-** Many applications require that individual wires get tested after stringing to ensure the insulation isn't damaged. This can be a time-consuming process to perform wire tracing and testing multiple wires individually. Electrically testing our catheter circuit can be done in one easy step using an electrical fixture.
- **Reduced Rework-** With the signals/terminations in set locations, it takes away the risk of having mis-connections or wire tracing uses between the distal and proximal ends of the catheter.

CASE STUDY:

Customer A was running double digit fine gauge wires the length of their catheter. Their assembly team required highly skilled operators to terminate to these wires and it was taking roughly 5.5 hours per assembly. After switching to a CatheterFlex® flexible circuit based design, they were able to reduce the assembly time down to 30 minutes. This customer had reduced most of their assembly time through their soldering process by incorporating alignment holes on the flex circuit. The alignment holes aligned the solder connection point thus eliminating the need to do alignment under a microscope.

Customer B was running close to 50 individual wires and it was taking 4+ hours to assemble this device. By replacing the wires with double sided CatheterFlex® circuits stacked on top of each other, they were able to bring the assembly time down to 20 minutes. These flex circuits reduced the arduous task of wire stringing, wire tracing and soldering of the flimsy wire terminations. Additionally, this customer was having yield fallout due to the wire assemblies not achieving the proper impedance requirements after stringing and soldering, but the CatheterFlex® flexible circuit designed for their application met their requirements after assembly .

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State of the Art Capabilities:

- Multi-layer constructions up to 8 conductive layers
- Advanced traces down to 50 microns (0.002") wide
- Extended lengths up to 108" long
- Terminations designed around customer needs
- Integrated thermocouple for Thermal/Cryoablation applications

Disclaimer:

Data presented for informational purposes only. Actual values and/or usage is for reference. Contact All Flex for details.

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