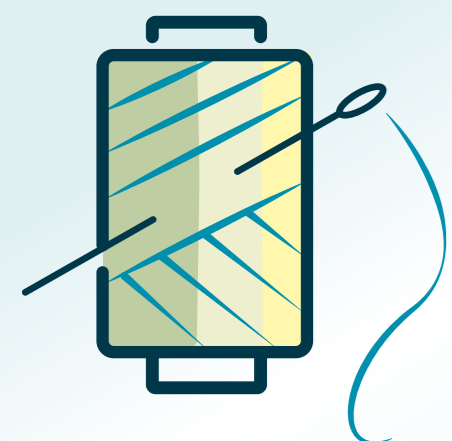
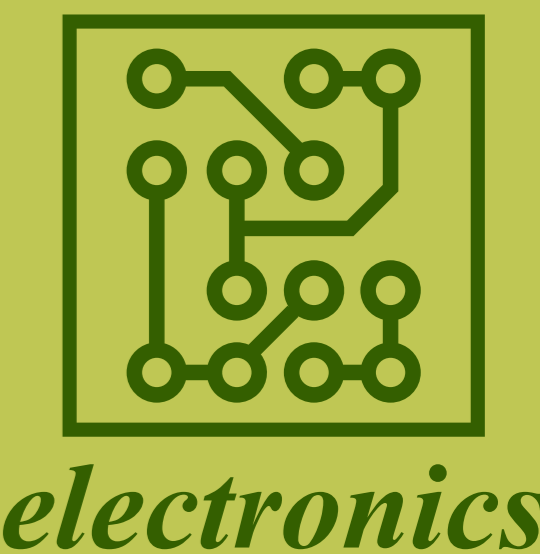


ARE COMMERCIAL CONDUCTIVE THREADS GOOD ENOUGH FOR TEXTILE ELECTRONICS APPLICATIONS?



Performance of off-the-shelf conductive threads has not been tested enough in circuits



They act like resistors, heat up and melt, because they are polymers plated with Ag

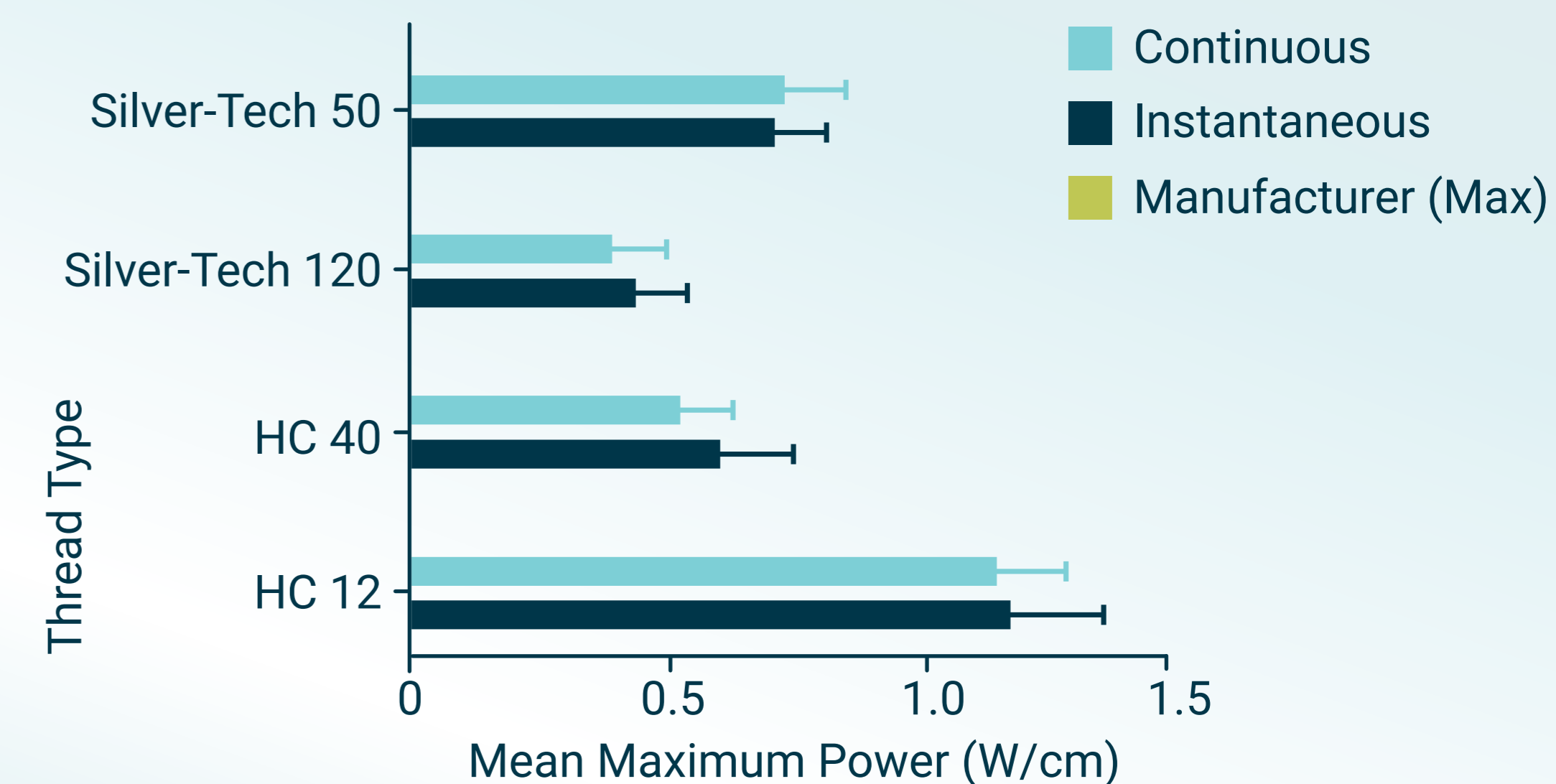
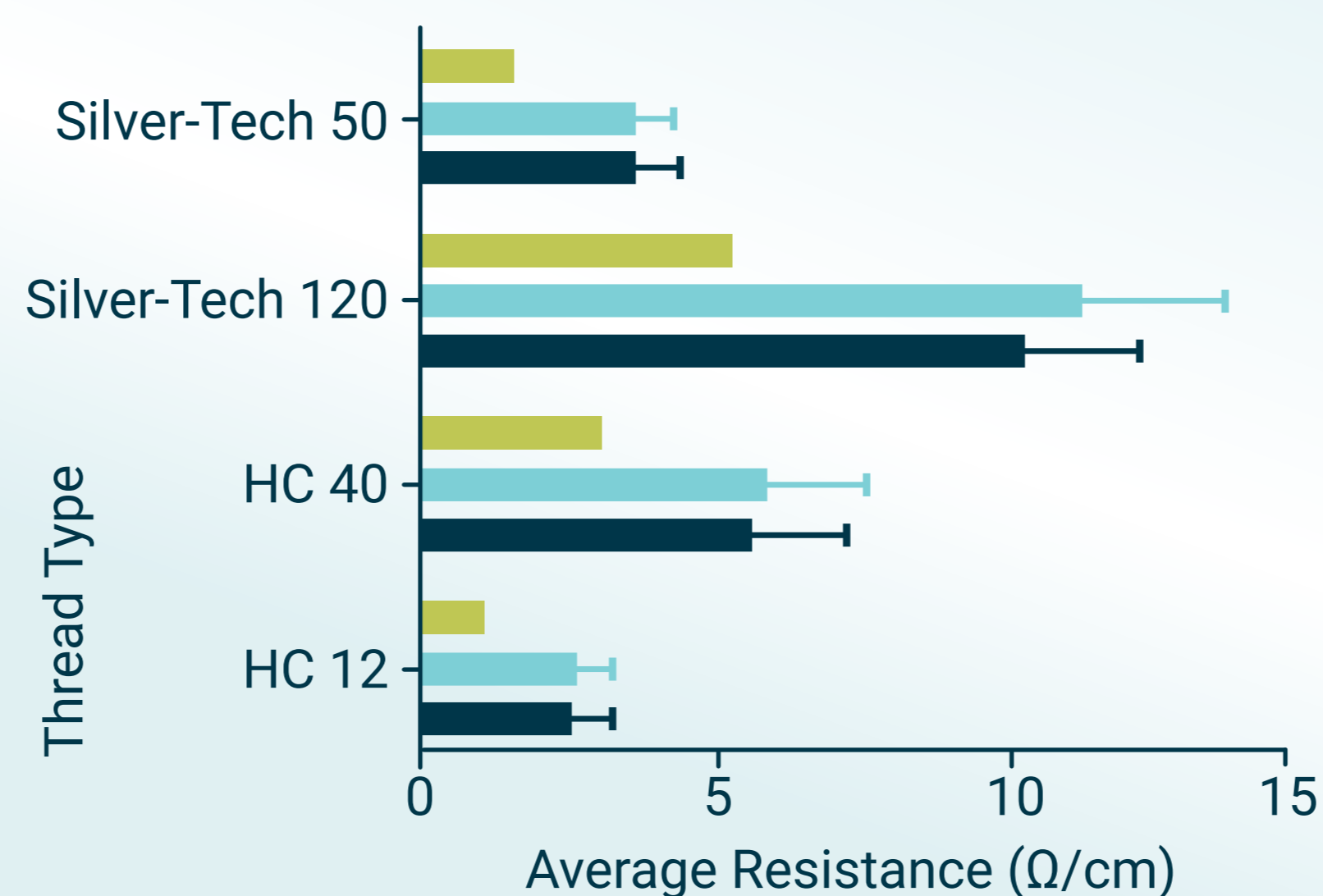


Current and voltage were used to determine maximum power sustained at failure, and time elapsed.



25 samples per thread
4 different threads
2 different test conditions

FINDINGS:



CONCLUSIONS:

Can sustain enough power for small circuits
They start failing from 50 °C which is low
Their resistance values are higher than expected
Ag plating is problematic, as can be seen under SEM, and damage is permanent after meltdown.

