

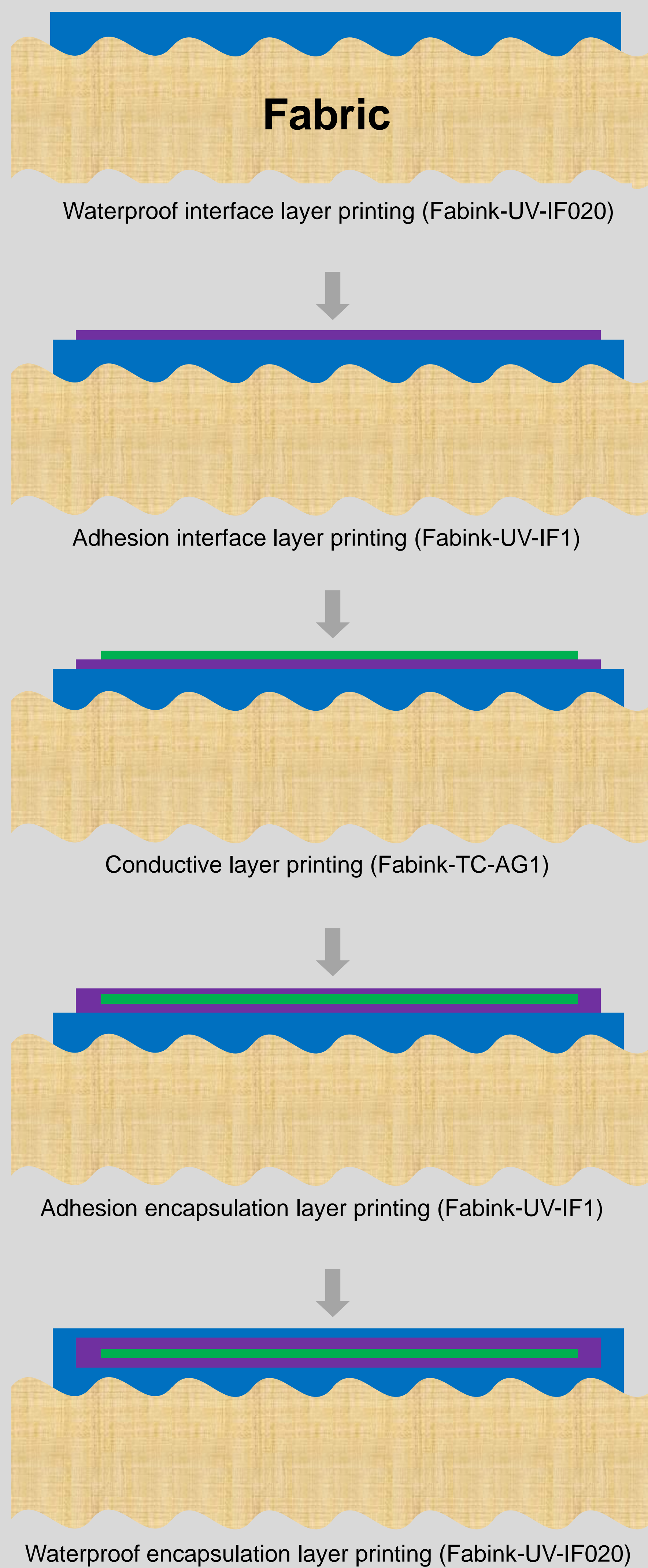
Flexible and Washable Conductive Textile Achieved by Screen Printing for Smart Fabric Applications

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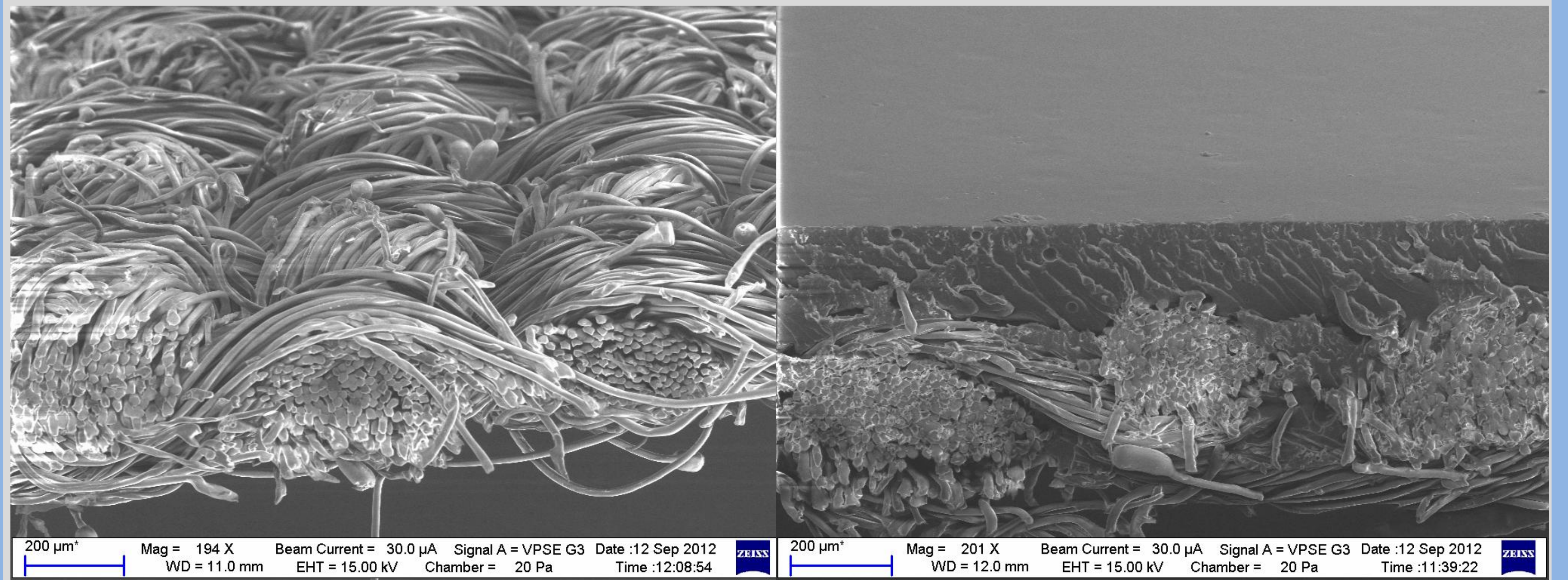
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Objective: to improve the durability to bending and washing of the screen printed conductive tracks on textile.

Fabrication processing

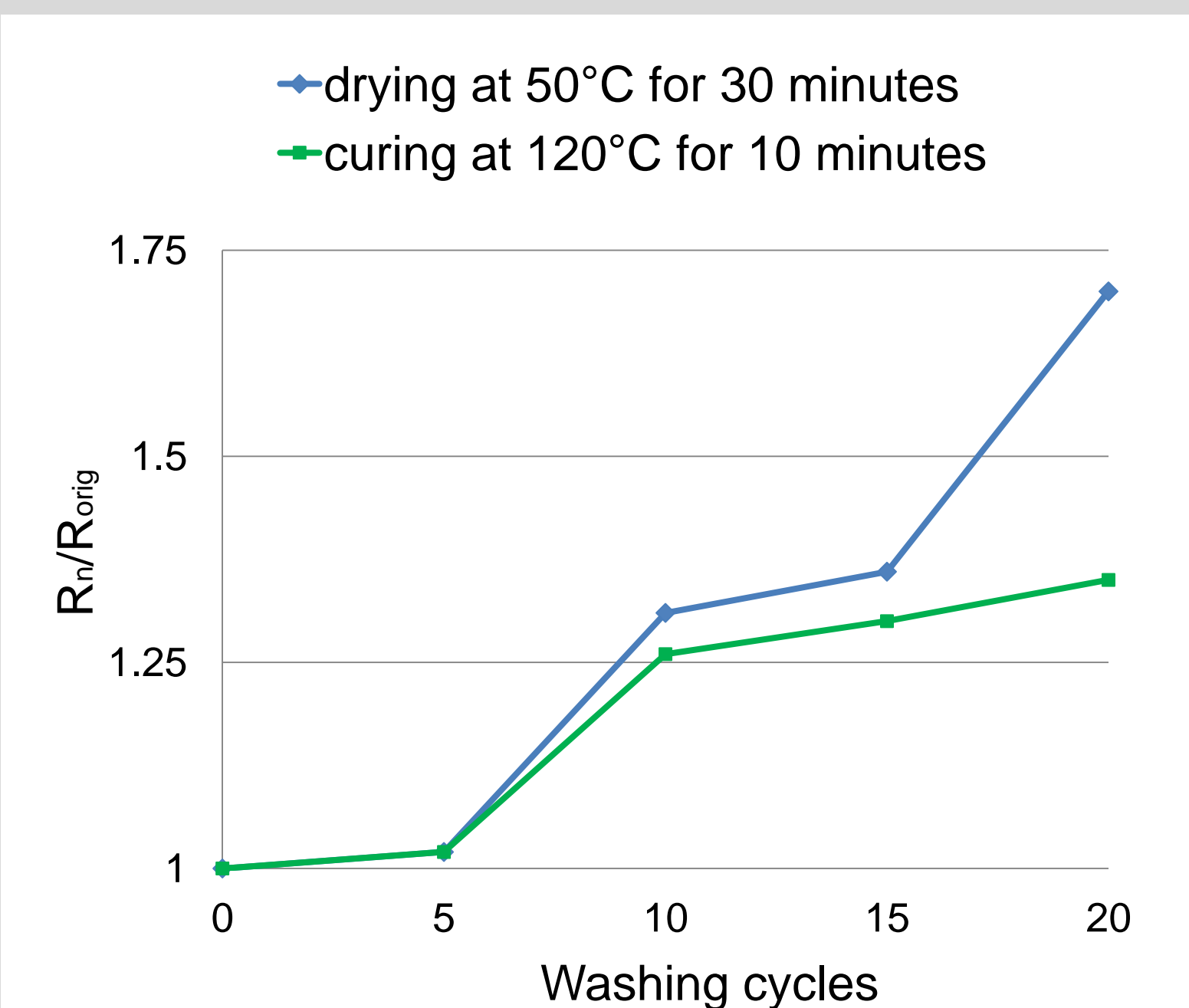
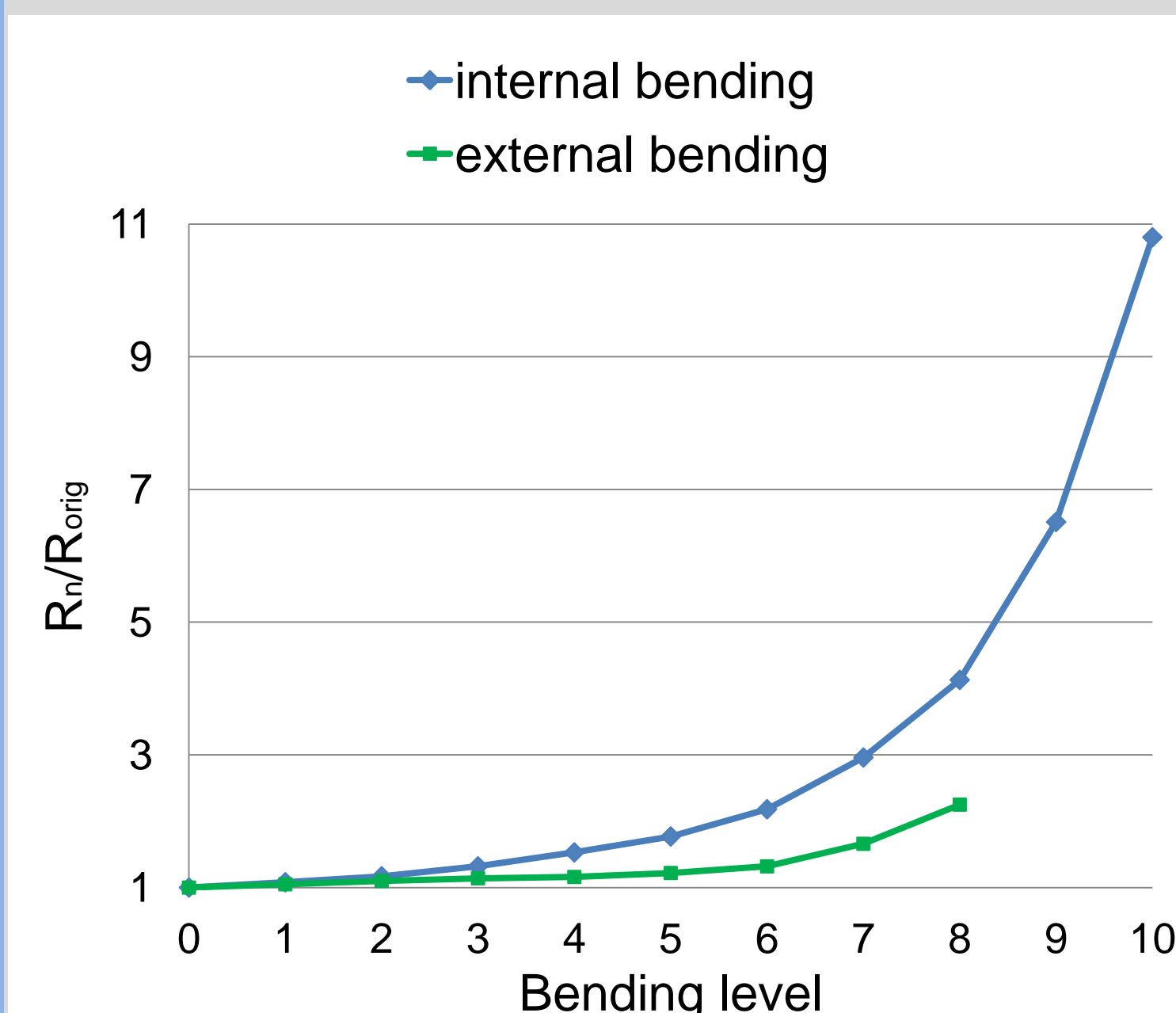


SEM of the 'fabric' & 'fabric + interface'



1. Reduce the usage of the expensive silver paste.
2. Improve the reproducibility.
3. Provide protection underneath conductive tracks.

Bending and washing tests



- Passes 1mm mandrel tests for internal bending.
- Passes 3mm mandrel tests for external bending.
- Maintains good conductivity after 20 washes.

Why screen printing?

1. Wide range of ink types available providing many different functions.
2. Well established technology in textile.
3. Straight forward and low cost.
4. Versatility of design especially for fine geometries.
5. Ease of fabrication of multi-layer functional devices.

Applications

- Electrical interconnections (e.g. fabric PCB, left)
- Functional electronic elements (e.g. fabric heater, right)

