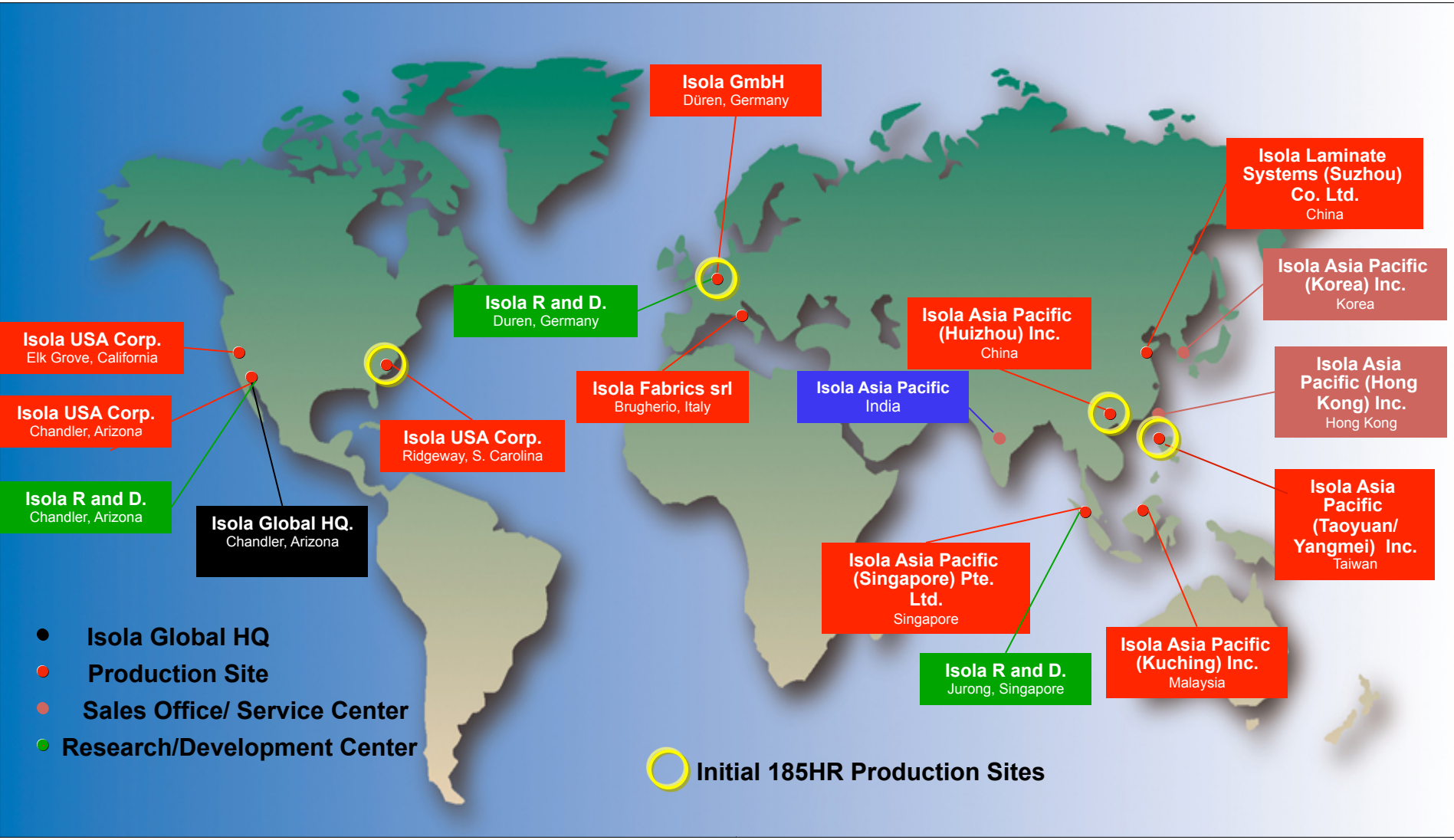
isola

Semi-Flex

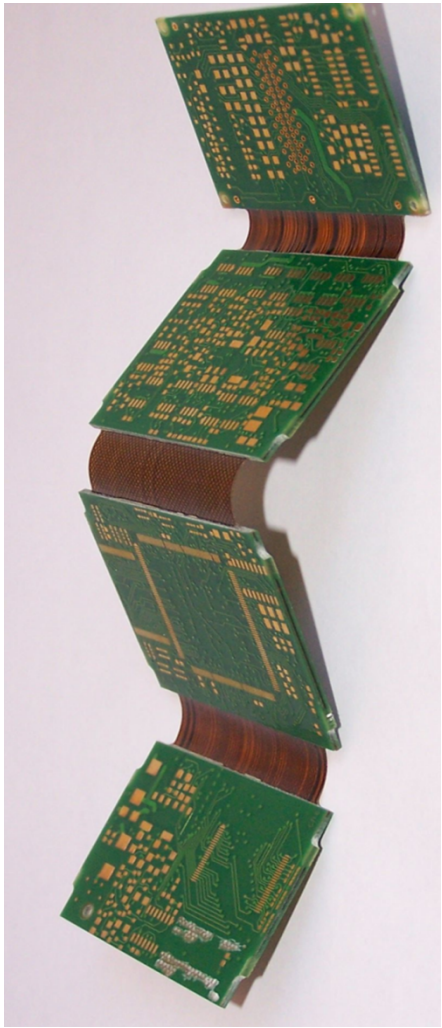
multi-family semi-flexible cores and prepregs

Isola Global Locations



Semi-Flex Introduction

The Semi-Flex family of laminates and prepregs are a low cost alternative for flex-to-install technology applications where non-dynamic or limited bending is required.



Semi-Flex Value Proposition

- Low cost of ownership
- Conventional PCB processing
- Dimensional Stability through reinforced E-glass
- Lead-free compatible
- Manufactured in Europe
- No additional UL requirements
- Available across a wide range of Isola products

Semi-Flex - Availability

- Material thickness 60um, 80um, 100um
- Glass Styles 106, 1080, 2116
- HD Copper 18um, 35um
- Product DE104, IS400, IS410, 370HR, 408HR
- Available in sheets, panels or rolls

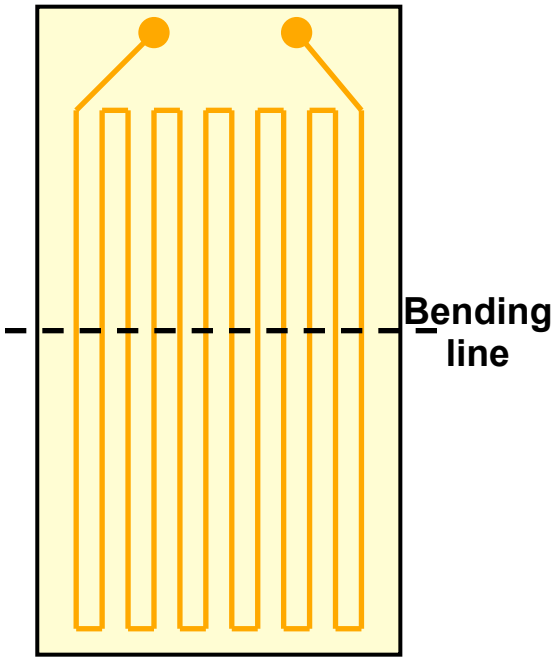
Semi-Flex - Performance

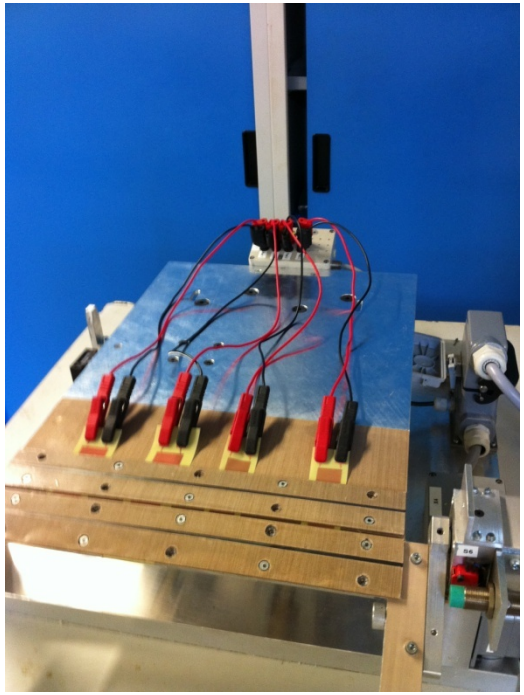
- **Test Matrix:**

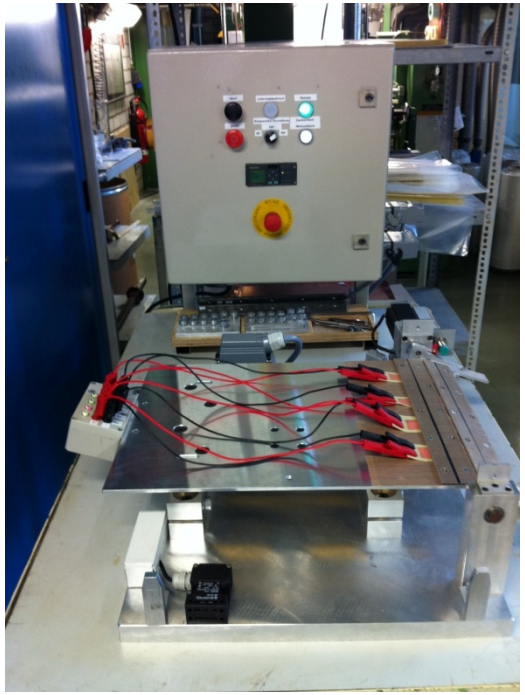
- **Material: IS400, IS410, 408HR, 370HR**
- **Glass Styles: 106, 1080 and 2116 (single ply)**
- **Copper Foil: 18um HD copper**
- **Bending Radius: 2mm, 3mm**
- **Bending Angle: 180°degrees**
- **Track Width: 300um**

Test fixture and test set up:

Test Vehicle (schematically)

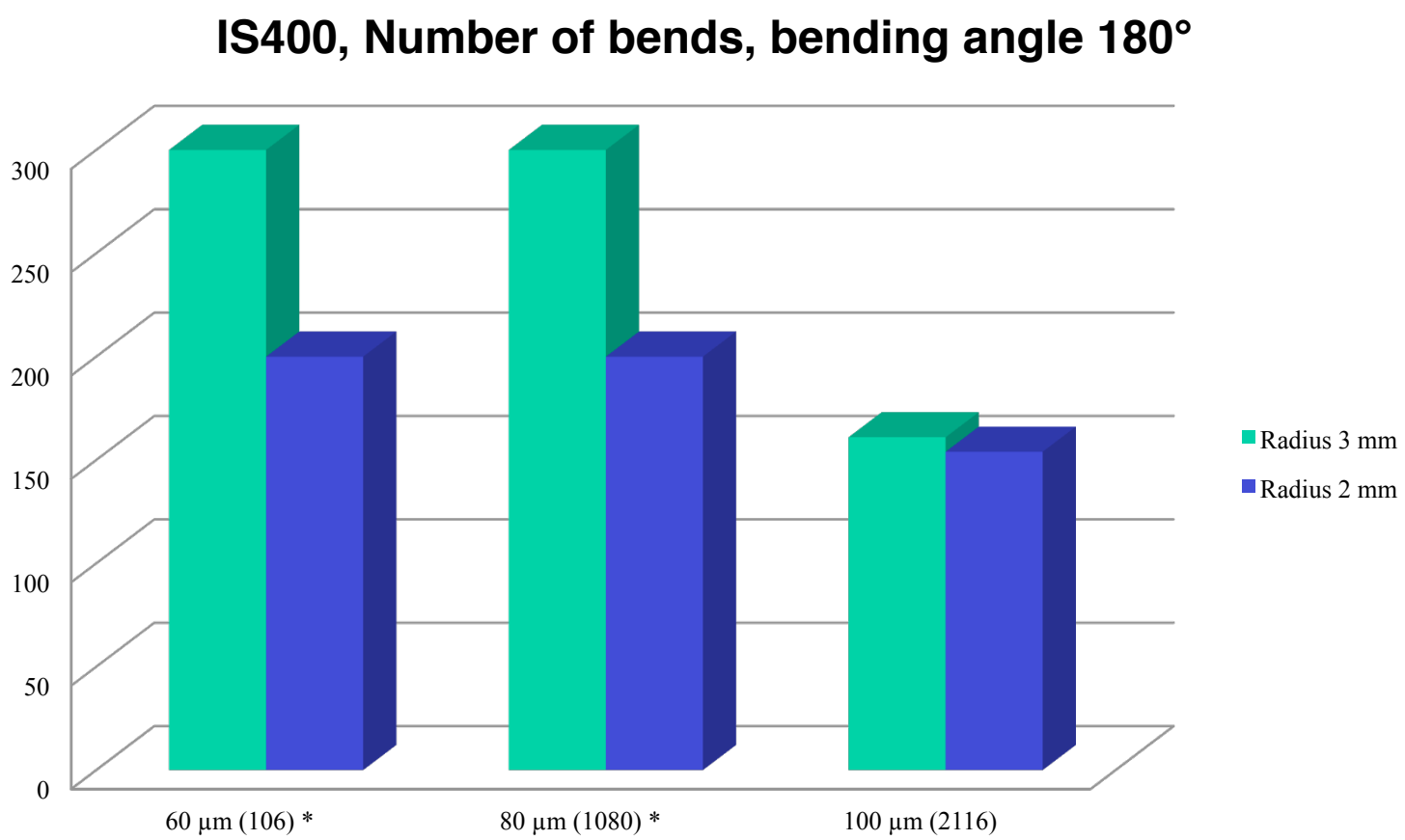






Failure criteria: Break in the track after *n* bending cycles

Semi-Flex – Test Results



*** Prediction based on pilot tests, extensive test series will soon be completed.**

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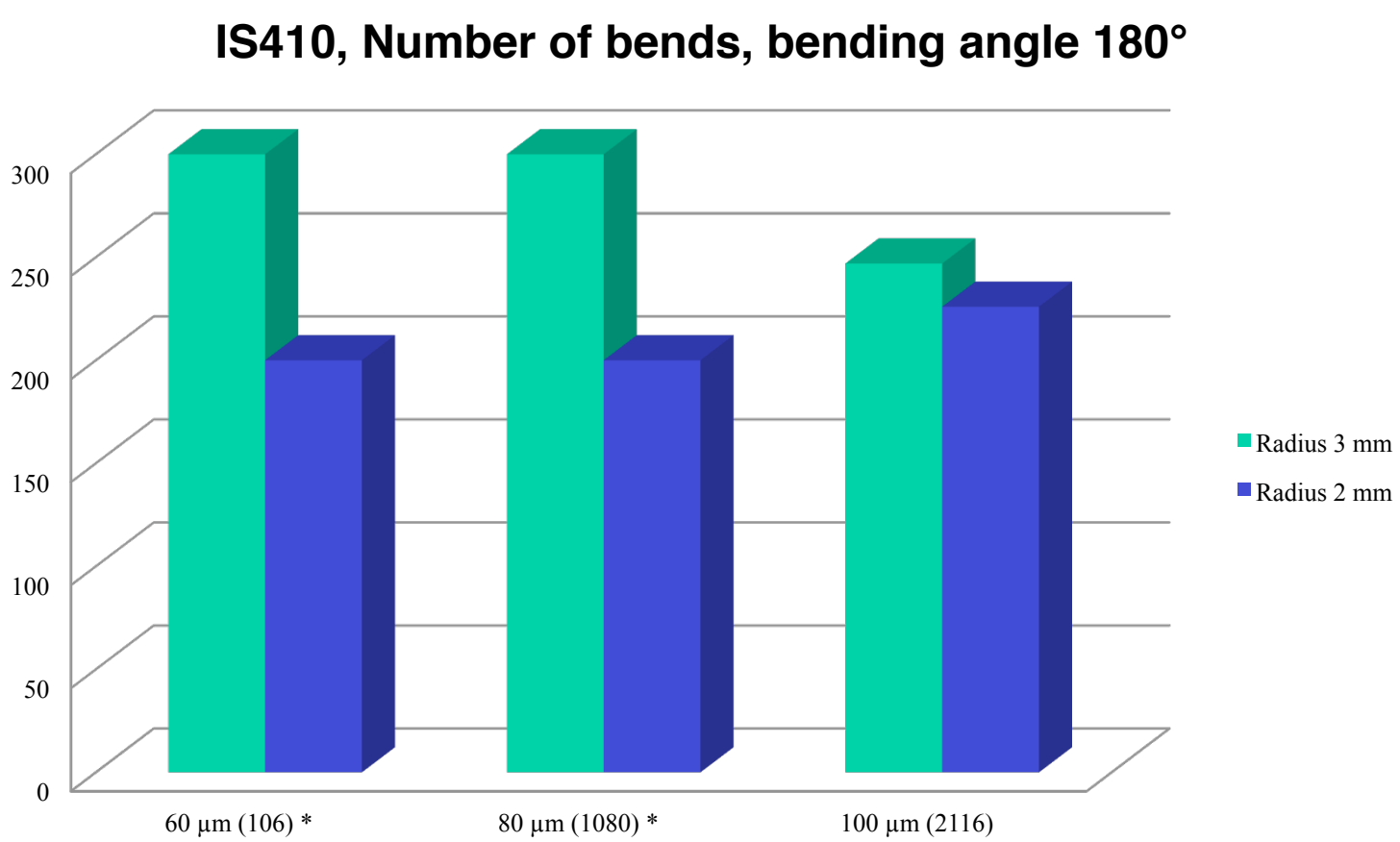

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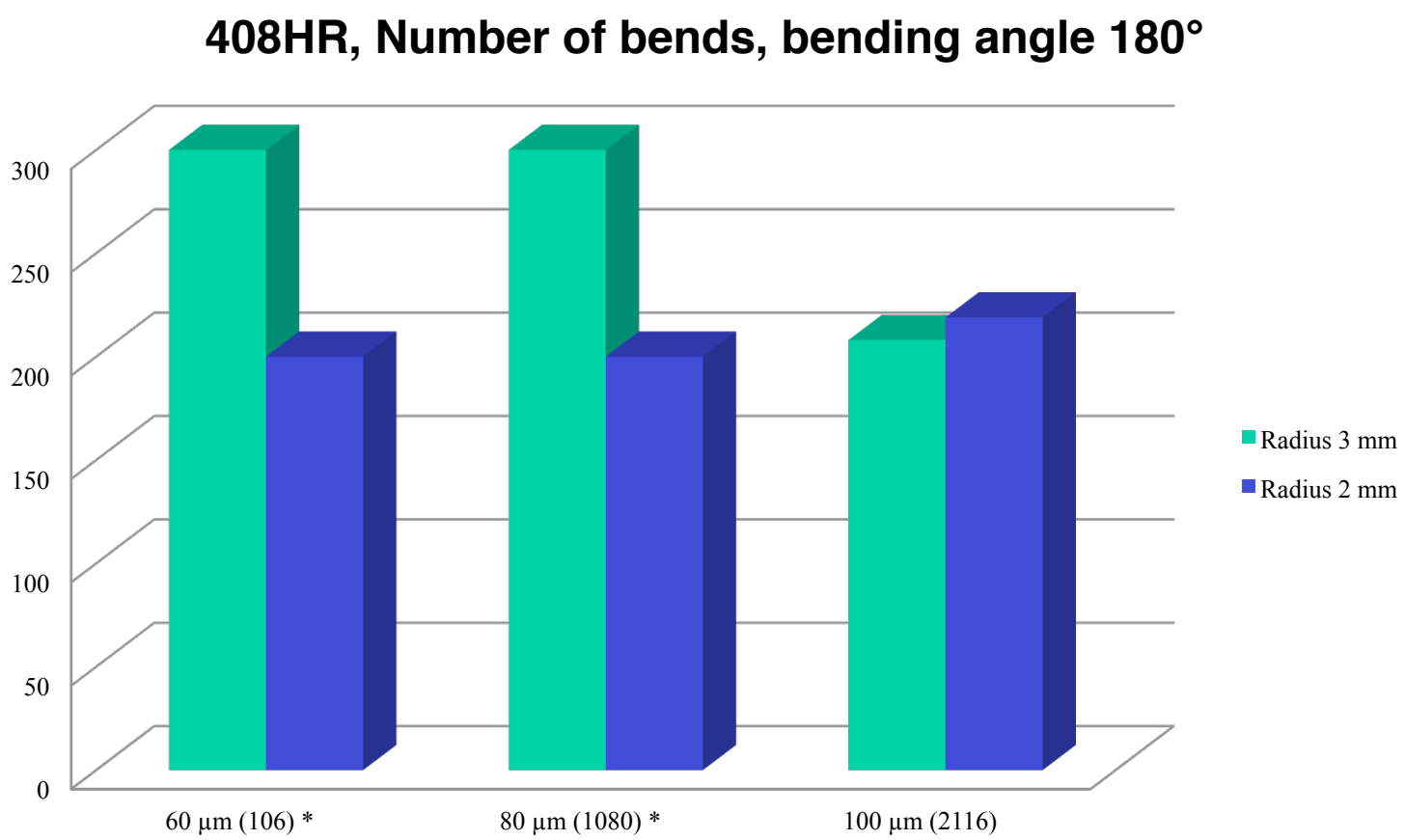

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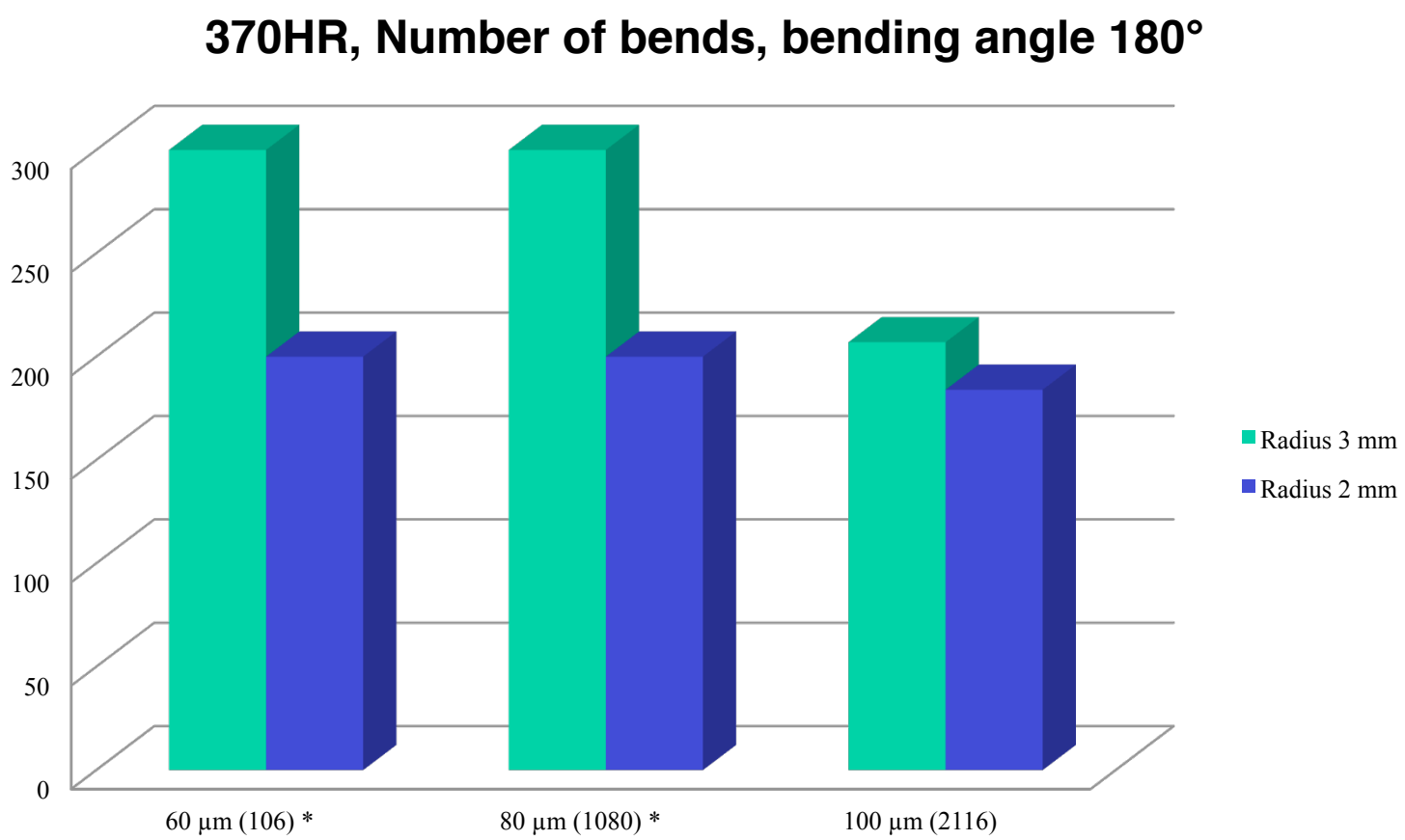

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Semi-Flex Summary

- Single ply constructions using HD copper give excellent performance characteristics (>100 bends)
- More testing planned for multiple ply constructions with results due in Q1 2012
- Cost and performance benefits versus traditional flex circuit materials such as PET, PEN and polyimide
- Conventional PCB processing and known design aspects of reinforced substrates