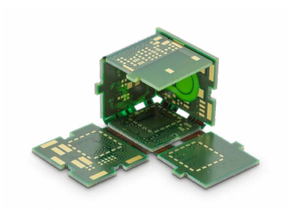
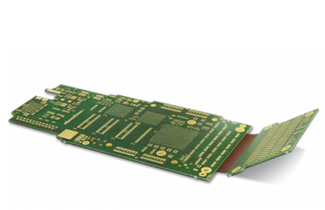
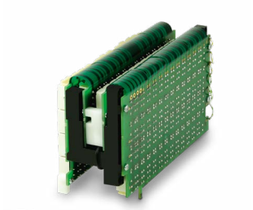
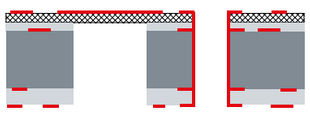
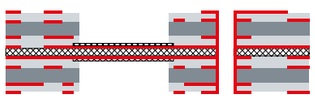
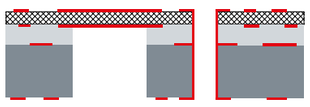
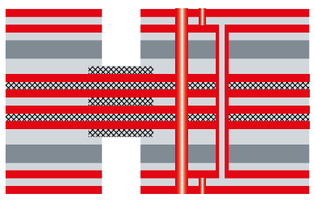
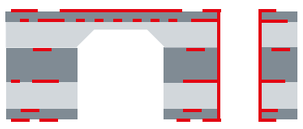
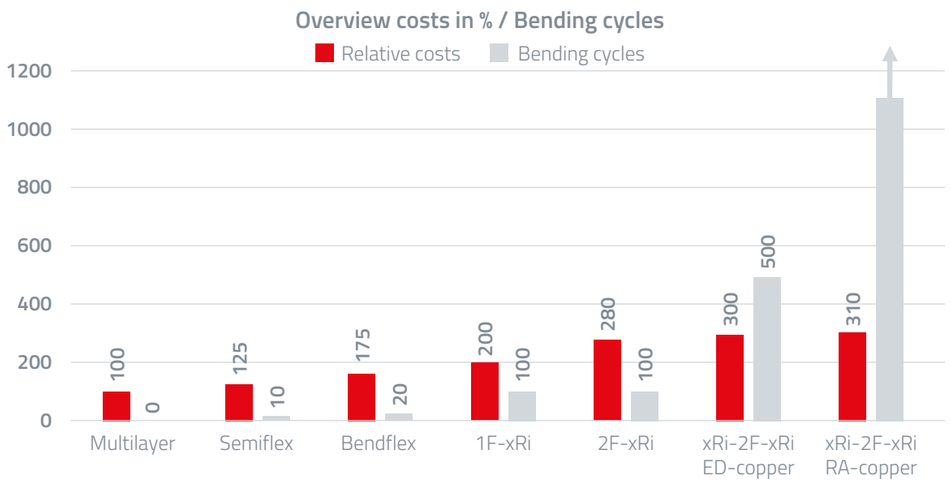
FLEX SOLUTIONS VOLUME

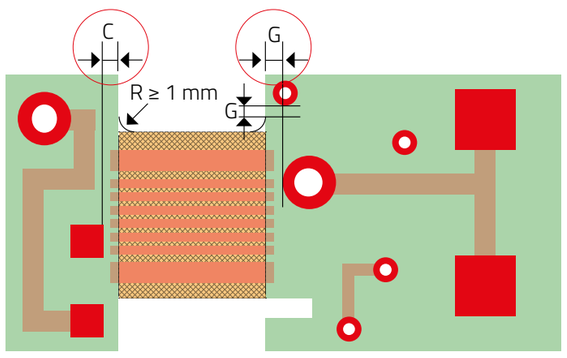
Technology variants

RIGID.flex outside	RIGID.flex inside	SEMI.flex / BEND.flex
		
1F-3Ri 	3Ri-2F-3Ri 	1Ri-3Ri 
2F-2Ri 	3Ri-8F-3Ri 	2Ri-4Ri 

Flexibility and costs – An estimation



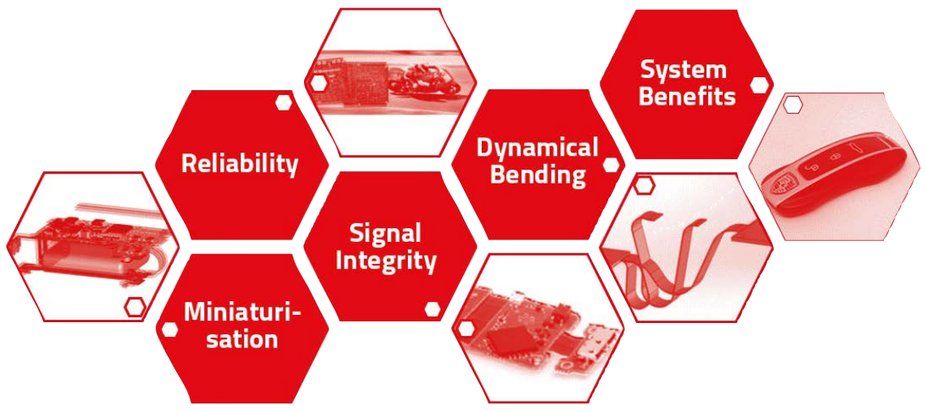
Layout / routing in the bending area



REGARD DISTANCES OF DRILL HOLES AND SMD PADS TO FLEX-RIGID TRANSITION, SEE WÜRTH ELEKTRONIK DESIGN RULES.

- No vias in flexible area with flex-rigid
- Use teardrops
- Round routing in flexible area
- Preserve NFP (Non Functional Pads) on flexible layers to avoid reliability risk

Advantages of RIGID.flex



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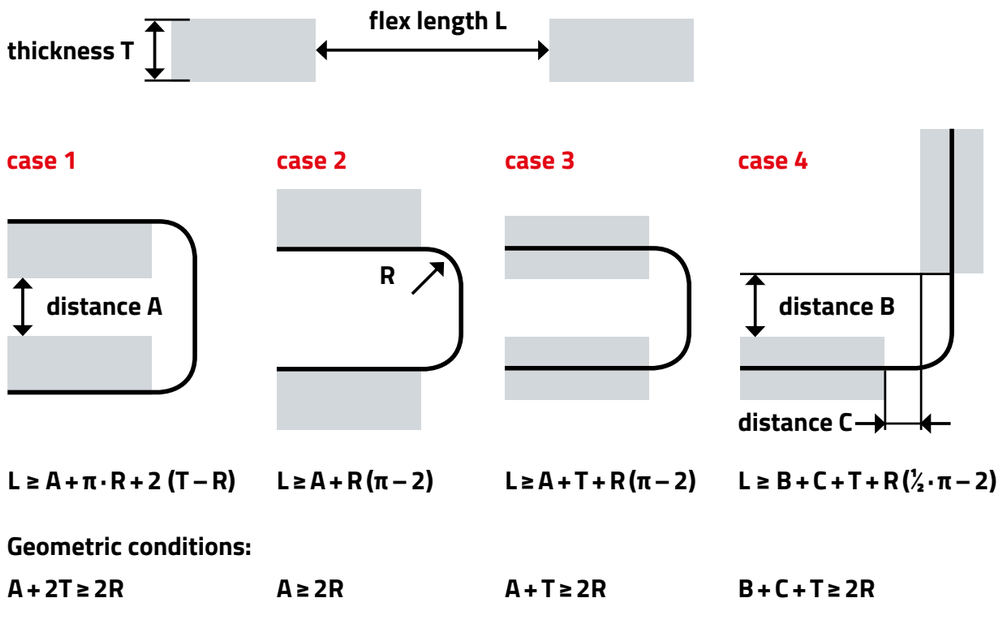
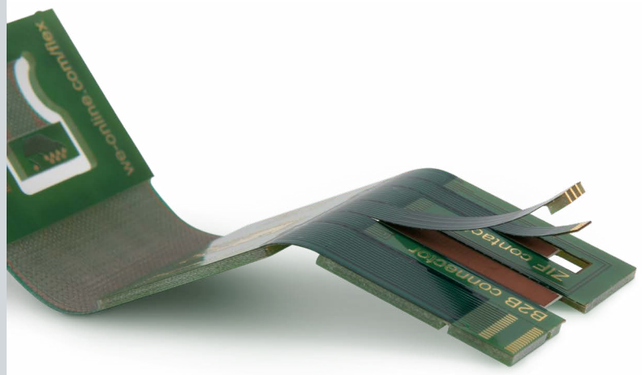
Design bending radii based on flex thickness

bending radius [mm]	1	2	3	4	5	6	7	
Flex area 1-layer	Thickness x 10							IPC-2223: Use A Flex-to-install
Flex area 2-layer		Thickness x 10						
Flex area 4-layer				Thickness x 20				
SEMI.flex								
BEND.flex								

Calculation of flex length

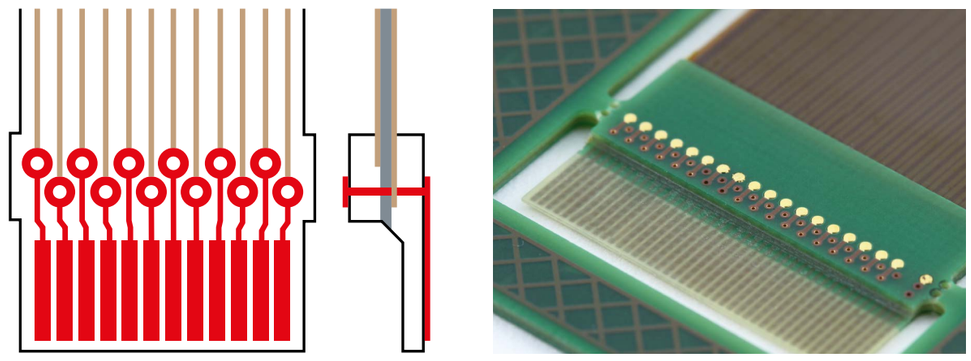


Lift-off option



- No PTH in the lift-off area
- no copper design allowed on the layer adjacent to the lifted flex area
- Specification in drawing, i.e. “lift-off area, not laminated“

ZIF contacts on outer layer by using vias



PLEASE RESPECT THE BASIC DESIGN GUIDE OF WÜRTH ELEKTRONIK FOR DESIGN PARAMETERS REGARDING STRUCTURES, VIA SIZES AND SOLDERMASK.

Here you will find more information about the stack-ups:
www.we-online.com/flex-stackups

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DESIGN GUIDE

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