

# Carl Zeiss 3D Automation GmbH

## Original ZEISS Accessories



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Global Business Development Manager

# Original ZEISS Accessories Stylus Systems – Don't ...



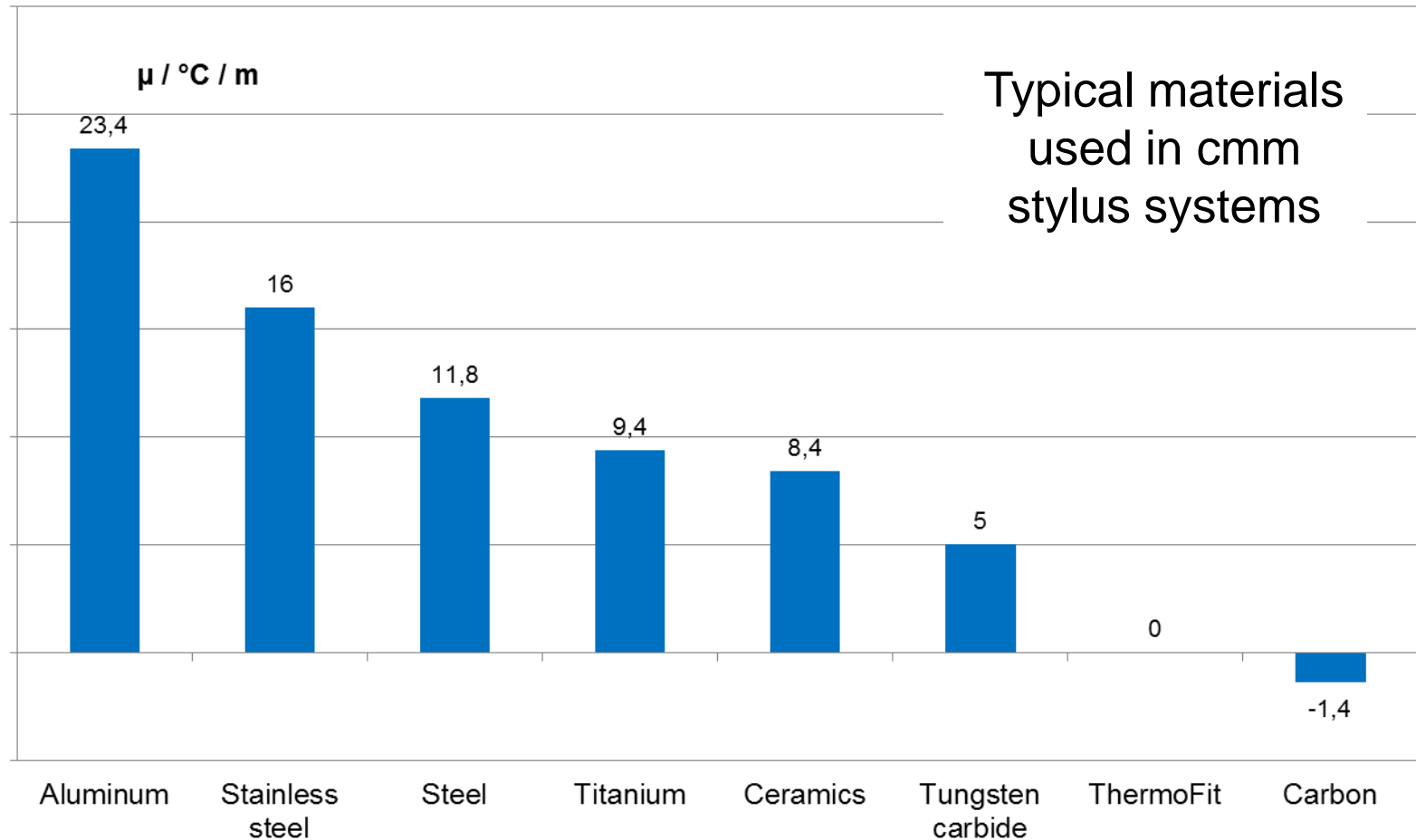
**... use a low end stylus system on a high end cmm!**



# Original ZEISS Accessories Stylus Systems – ThermoFit®



## Coefficient of linear thermal expansion CTE



# Original ZEISS Accessories Stylus Systems – ThermoFit®



## ThermoFit®

- high stiffness carbon fibers
- woven angles optimized for stiffness and low thermal expansion and torsion
- production on own machinery  
→ full control of quality and characteristics

## Competitor carbon fiber

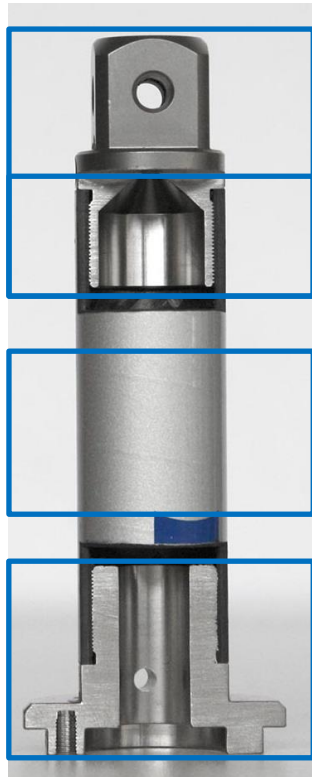
- cheaper, lower quality carbon fibre
- rough and wide wraps, not optimized for thermal torsional stiffness



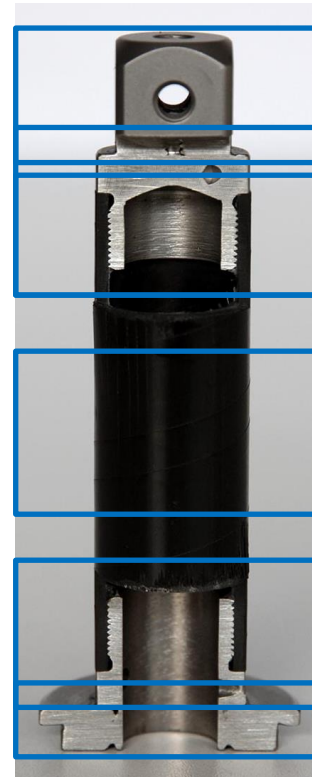
# Original ZEISS Accessories Stylus Systems – ThermoFit®



## Comparison between ThermoFit® and competitors carbon fiber



- ① one solid piece
- ③ no glueing gap
- ④ unique alignment of carbon fibers
- ⑤ extra thick material, high stiffness titanium grade 5

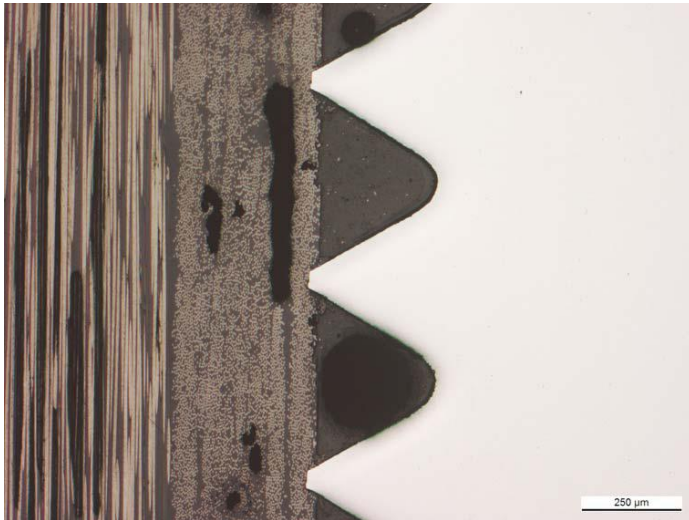


- ① several pieces welded together
- ② weld
- ③ glueing gap
- ④ no own design of fibers
- ⑤ less and lower stiffness material (titanium grade 2)

# Original ZEISS Accessories Stylus Systems – ThermoFit®

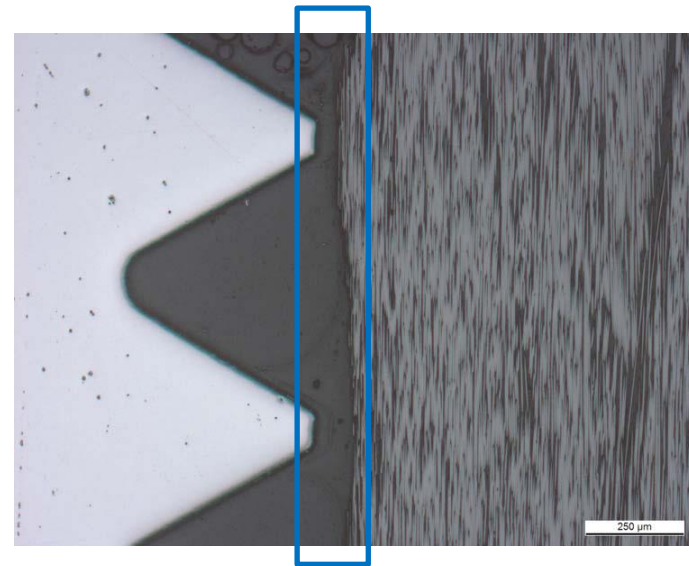


Comparison of bonding between ThermoFit® and competitors carbon fiber



## ThermoFit® original bonding

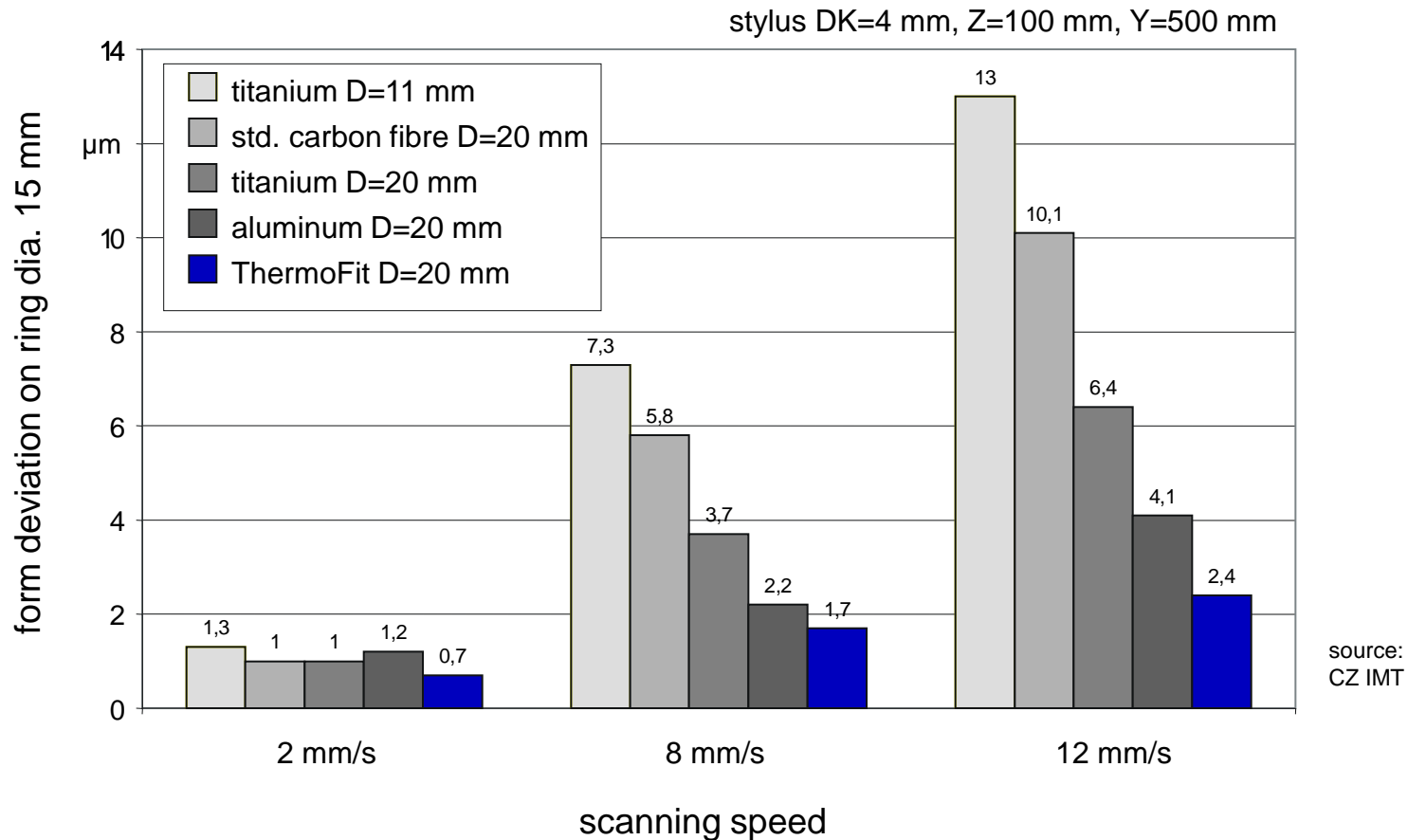
- adaptors are cut into carbon fiber, both have very high stiffness
- no soft glueing gap



## Competitor copy (best price design)

- soft glue inbetween adaptor and carbon fiber tube weakens overall stiffness

# Original ZEISS Accessories Stylus Systems – ThermoFit®



# Original ZEISS Accessories Stylus Systems – ThermoFit® Pro

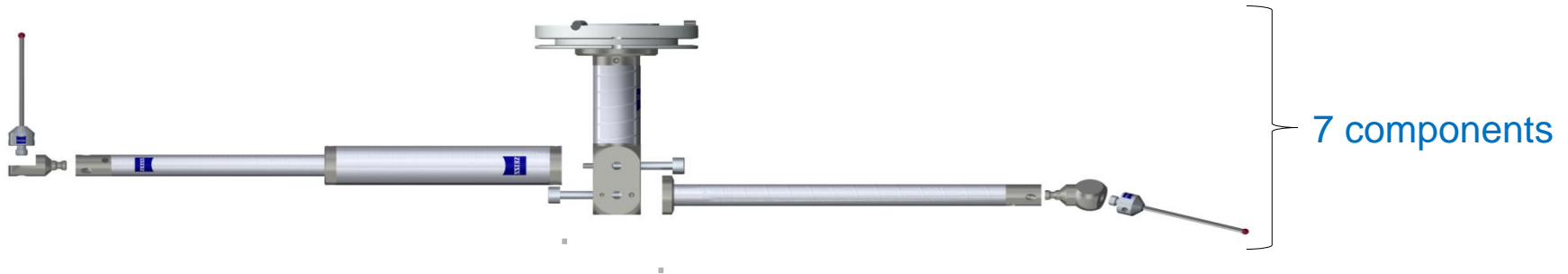




# Original ZEISS Accessories Stylus Systems – ThermoFit® Pro



① ThermoFit® Pro → Prealigned and exchangeable groups of components



② „Normal ThermoFit®“ → Multiple single components

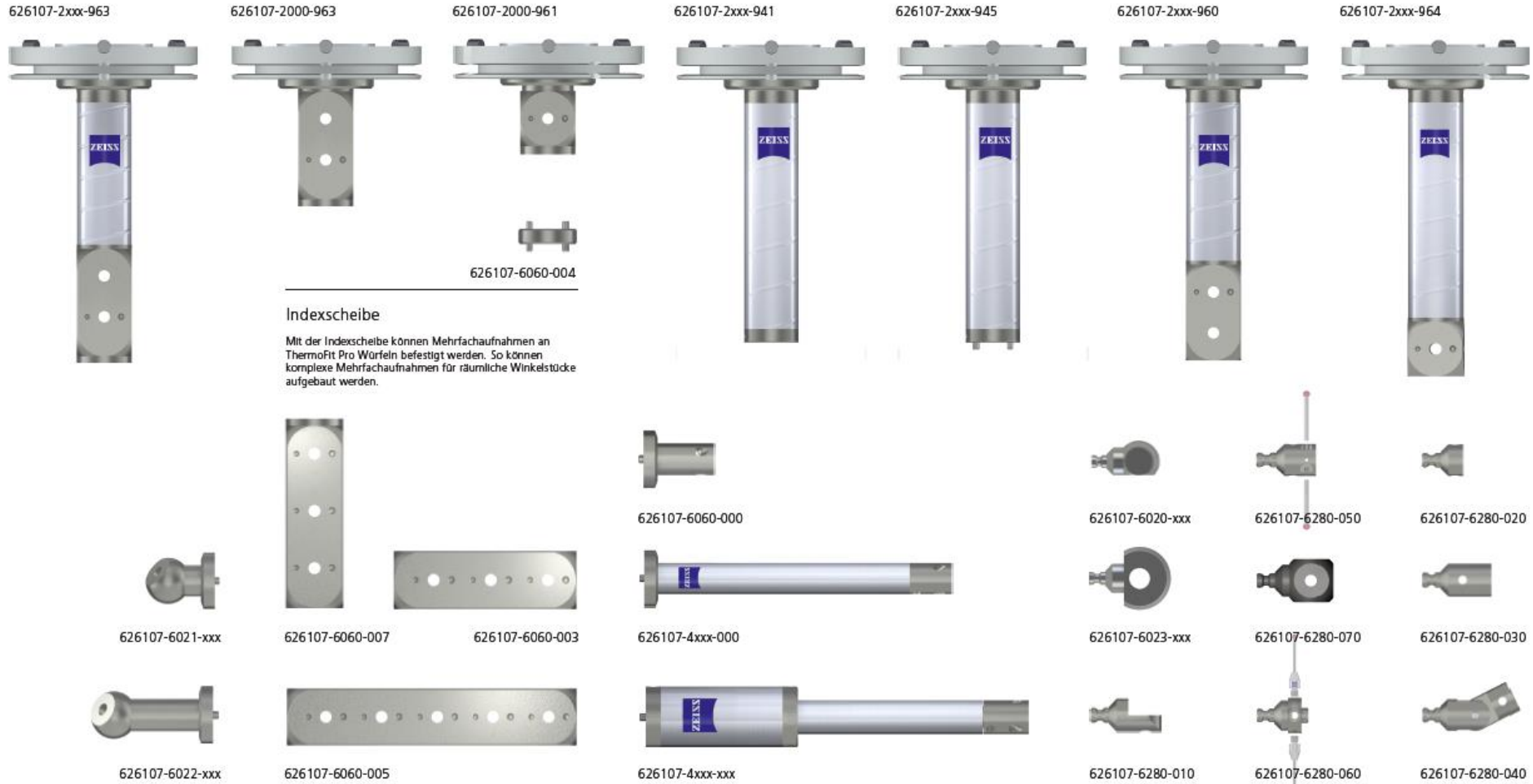


# Original ZEISS Accessories Stylus Systems – ThermoFit® Pro



**Standard solutions for complex applications**

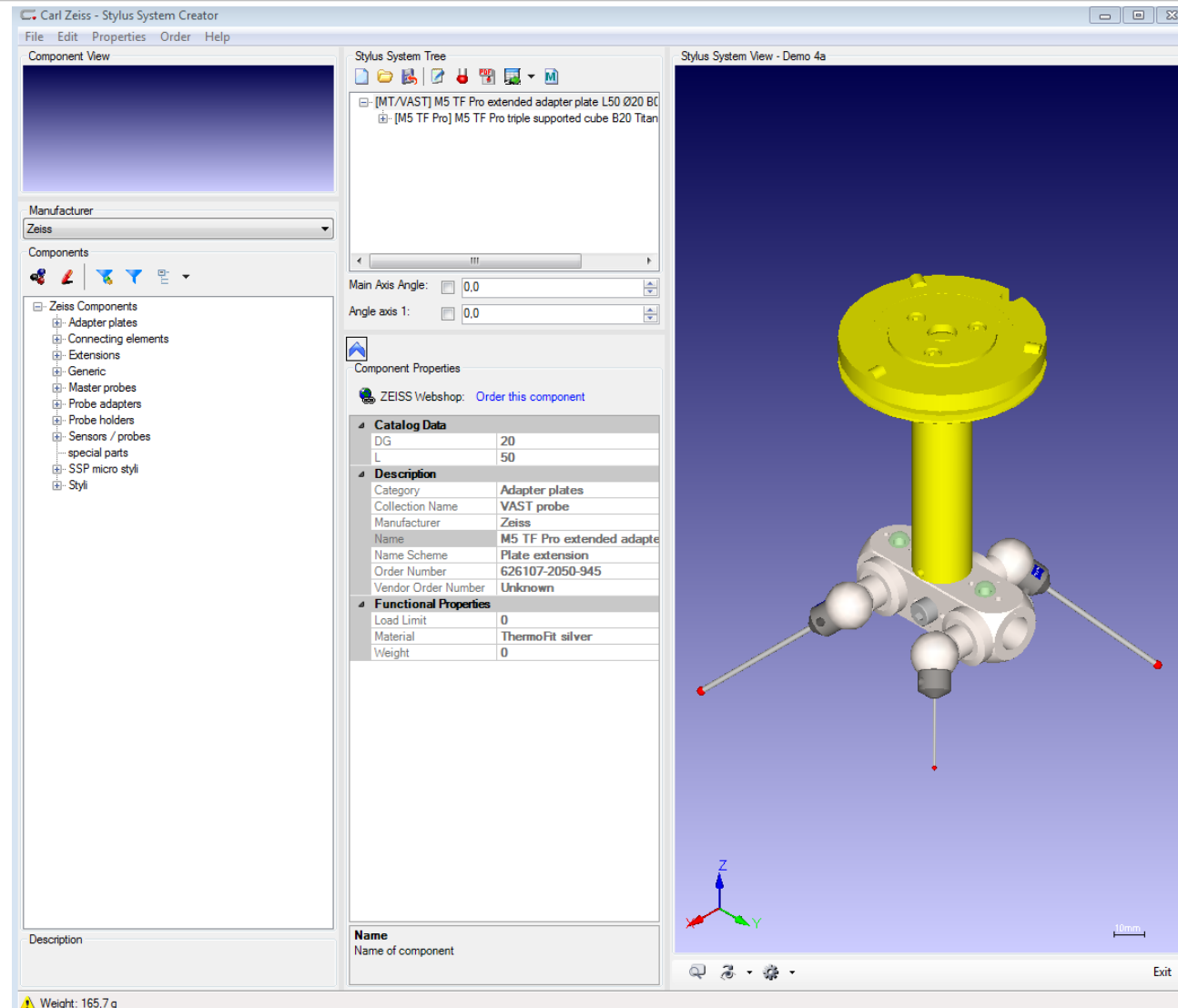
# Original ZEISS Accessories Stylus Systems – ThermoFit® Pro



# Original ZEISS Accessories Stylus Systems – SSC Software



- Quickly build stylus systems and simulate them in Calypso Planner Simulation
- Library with over 2.000 components available
- One click Pdf documentation (in Chinese)
- Generate complex angles with generic standard components
- No CAD knowledge required





[Home](#)

## Case Study: GM Cuts Inspection Time by 40%

August 3, 2012

Zeiss aids General Motors in the design and manufacture of custom probe tooling.



ThermoFit Pro components do not have threads but instead are conjoined by plug-in connections and are then screwed from the backside of the cube. *Source: Carl Zeiss Industrial Metrology*



We make it visible.