

# Probes & Spatulas - Stainless steel

## Stainless steel multi-purpose tools for Electronics Assembly / Rework and Lab applications

Probes and Spatulas are general purpose tools for scraping, getting into small areas, use with adhesives, moving small parts etc. Ideal for circuit board repair and rework. Perfect help for checking solder joints and mechanical inspections.

- » Rust-free stainless steel AISI 410
- » Serrated handles for better grip
- » Multi-purpose
- » Probes length: 15 cm / 6"
- » Spatulas length: 17 cm / 6,7"
- » Available singularly or in kit of four and six styles

## Probes



**MPTSP1**  
Stainless steel probe - Straight needle tip



**MPTSP2**  
Stainless steel probe - Angled needle tip



**MPTSP3**  
Stainless steel probe - Single bend tip



**MPTSP4**  
Stainless steel probe - Hook tip



**MPTSP5**  
Stainless steel probe - Triple bend tip



**MPTSP6**  
Stainless steel probe - Flat tip



**K4MPTSP**

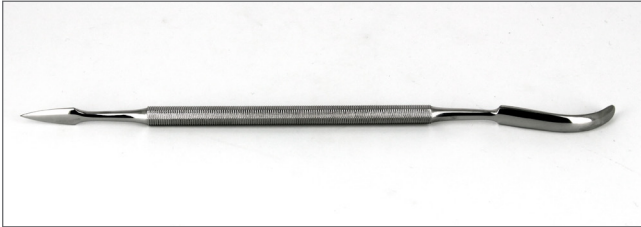
Stainless steel probe - Kit of four styles (MPTSP1, MPTSP2, MPTSP3, MPTSP4)



**K6MPTSP**

Stainless steel probe - Kit of six styles (MPTSP1, MPTSP2, MPTSP3, MPTSP4, MPTSP5, MPTSP6)

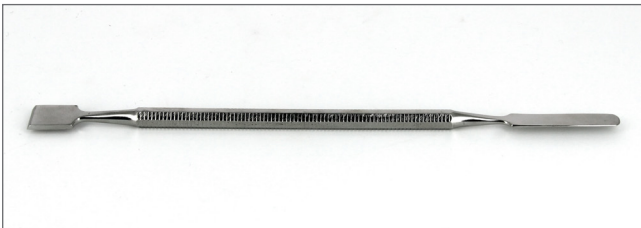
# Spatulas



**MPTSS1**  
Stainless steel spatula - Short pointed tip & long curved rounded tip



**MPTSS2**  
Stainless steel spatula – Short rounded tip & large flat squared tip



**MPTSS3**  
Stainless steel spatula – Short flat squared tip & long flat rounded tip



**MPTSS4**  
Stainless steel spatula – Long curved pointed tip & long curved rounded tip



**K4MPTSS**  
Stainless steel spatulas - Kit of four styles (MPTSS1, MPTSS2, MPTSS3, MPTSS4)

## Material information

### General notes:

- » **Martensitic higher carbon steel** (Material number 1.4021, AISI number 410)
- » The grade is basically an iron chromium alloy
- » Magnetizable
- » Good formability and ductility
- » It is a martensitic grade which exhibits good mechanical properties coupled with good corrosion resistance.

## Composition

Component	Wt.%	Component	Wt.%	Component	Wt.%
<b>C</b>	≤0.15	<b>Si</b>	≤1.0	<b>Mn</b>	≤2.0
<b>P</b>	≤0.025	<b>S</b>	≤0.025	<b>Cr</b>	11.5-13.5

## Mechanical properties

Density	<b>7.70 Kg/dm<sup>3</sup></b>
Tensile strength, ultimate	<b>586-655 MPa</b>
0.2% Yield stress	<b>≥420 MPa</b>
Modulus of elasticity	<b>200 GPa</b>

## Thermal properties

Coef. of lin. therm expansion	<b>10.5 E-6/°C</b>	20°C-100°C
Coef. of lin. therm expansion	<b>11.5 E-6/°C</b>	20°C-300°C
Specific heat capacity	<b>0.46 J/(g K)</b>	20°C
Thermal conductivity	<b>30 W/(m K)</b>	20°C

## Electrical properties

Resistivity	<b>0.06 E-6 Ohm.m</b>
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