

Areas of application

Functional benefits

- new or improved mechanical properties of components (waterproof, chemically resistant, UV and humidity resistant)
- long-term stability
- significant increase of strength and stiffness up to 10 times
- weight reduction, yet metallic look
- galvanofforming
- cost savings through usage of affordable plastic substrate

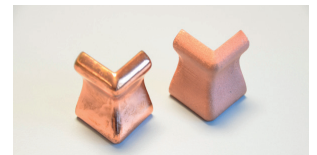
Decorative

- esthetic finishing for design purposes
- attractive metal look with nickel and/or copper



Electrical

- EMV shielding
- conductivity



Added value by metal coating

$$1 + 1 = 3$$

plastic + metal coating = hybrid component

plastic:

- low density
- no corrosion
- design freedom
- chemical resistance
- recyclability

hybrid:

- low weight
- electrical conductivity
- prevents humidity penetration
- high strength
- thermal conductivity

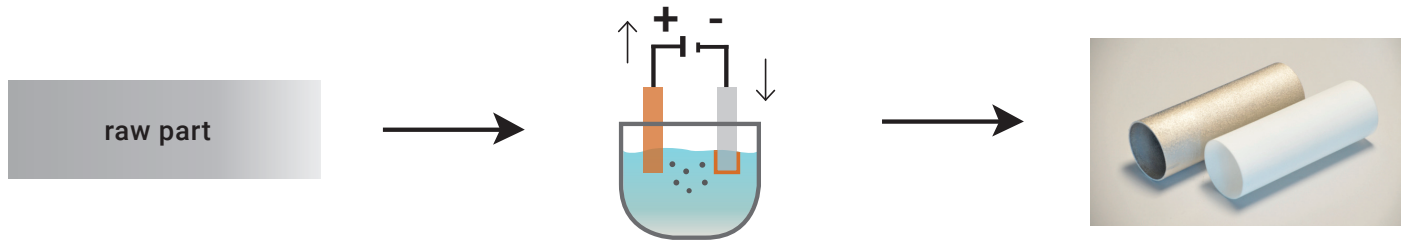
metal coating:

- electrical conductivity
- high strength
- thermal conductivity
- prevents humidity penetration
- low tendency to crack
- low coefficient of thermal expansion

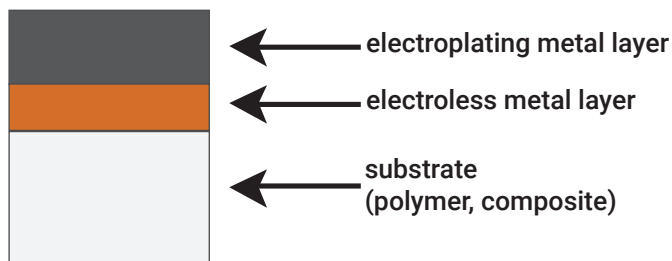
Improved mechanical properties of components by galvanization

Test element with layer thickness of coating [μ]	Tensile strength [MPa]
not galvanized	47 MPa
galvanized 100 μ	90 MPa
galvanized 150 μ	118 MPa
galvanized 200 μ	182 MPa

Technology & benefits of the process



Direct metal coating



Benefits:

- excellent adhesion
- excellent electrical conductivity
- uniform and accurate plating
- supports full or selective plating
- low cost process
- scalable
- supports 3DP objects

Available substrates

Rapid Prototyping	Plastic	Metal
<ul style="list-style-type: none"> • SLA • SLS • FDM 	<ul style="list-style-type: none"> • ABS • ABS/PC • PEEK 	<ul style="list-style-type: none"> • brass • aluminum • steel
<ul style="list-style-type: none"> • vacuum casting • FLT 	<ul style="list-style-type: none"> • PVC • PC • PE 	

Technical characteristics

coating material	copper
	nickel
	sandwich layers of copper and nickel
layer thickness of coating	50 – 300 μ (more on request)
component size	1000 mm x 400 mm x 400 mm (bigger on request)
offset	offset parts against additional layer thickness of coating
surface	rough
	slightly rough
	shiny
	high gloss

Inquiry form



Data transfer to:

Raw part: by FIT produced by customer
(provides component with offset)

Substrate:

Manufacturing method:

Quantity:

Coating:

type → material → layer thickness

- | | | | | | |
|--|---------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="checkbox"/> single layer | <input type="checkbox"/> nickel | <input type="checkbox"/> 50 μ | <input type="checkbox"/> 100 μ | <input type="checkbox"/> 200 μ | <input type="checkbox"/> 300 μ |
| <input type="checkbox"/> sandwich
(nickel/copper) | <input type="checkbox"/> copper | <input type="checkbox"/> 50 μ | <input type="checkbox"/> 100 μ | <input type="checkbox"/> 200 μ | <input type="checkbox"/> 300 μ |

Surface: technical decorative

rough shiny

slightly rough high gloss

Comments:

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