

Flame spray

EUROLLS

Description

Flame Spray is a thermal spray **coating technique** that uses a flame generated by the combustion of oxygen and fuel gas to melt the feedstock material and project it onto the surface of the component.

It is a **versatile and economically advantageous process**, ideal for dimensional restoration, improving wear resistance, or creating anticorrosion barriers on metallic components.



Process

The feedstock material, generally in powder form, is melted by the oxyacetylene flame and atomized by means of compressed air. The semi-molten particles are accelerated toward the substrate and solidify immediately upon contact with the surface, creating an **adherent and customizable coating** depending on the selected material.

The process allows **intervention on complex geometries**, with manual applications that also enable **equipment portability on site**.

Highlights

- Versatile process suitable for a wide range of materials
- Cost-effective compared to high-energy techniques (HVOF/Plasma)
- Ideal for dimensional restoration and anticorrosion protection
- Good adhesion and possibility of applying different materials
- Applicable also on installed parts or with complex geometries
- Possibility to increase surface roughness up to Ra 12–30

Applications

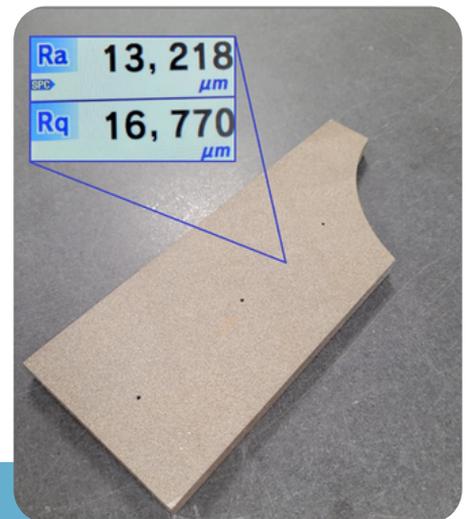
- Dimensional restoration of shafts and housings
- Rolls and cylinders subject to moderate wear
- Components exposed to corrosion or erosion
- Large mechanical parts
- Supports, bushings, flanges, and rotating surfaces
- Drive components

Applied Materials

- Metals and alloys (steel, bronze, copper, nickel, molybdenum, aluminum)
- Selected metallic carbides
- Anticorrosion materials (NiAl, ZnAl)
- Anti-friction materials

Coating Thickness

From 0.1–2 mm, depending on the application and the feedstock material.



Treatable Materials

- Carbon steels
- Alloy and stainless steels
- Superalloys (selected applications)
- Non-ferrous alloys (e.g., bronze, aluminum)
- Cast irons



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