VZÚ PLZEŇ

Applied Research Center for Surface Solutions

Thermal Spraying

- Application of protective coatings based on pure metals, alloys, superalloys, cermets, and ceramics using thermal spray technologies
- Thermal spray coatings offer functional properties such as resistance to wear, abrasion, erosion, corrosion, and high temperatures
- R&D and consultancy in the field of thermal sprayed coatings
- Testing of coating properties, e.g. tribological, abrasive, erosive, and adhesion tests.

Heat Treatment

- Thermal and thermochemical processing of semi-finished products and components – quenching, tempering, annealing with or without protective atmosphere
- Powder carburizing, Gas Nitriding, Nitrocarburizing
- Heat treatment testing of metallic materials

Infrastructure and Technology equipment

- Plasma spray equipmentSinplex Pro and F4 (Oerlikon Metco)
- Cold spray equipment Impact Spray Systém EvoCSII (Impact Innovations)
- High velocity oxy fuel equipment HP/HVOF WokaJet (Oerlikon Metco) and JP 5220 (TAFA Incorporated)
- Flame spray equipment 6P-II (GTV and Oerlikon Metco)
- Twin wire arc spray equipment Smart-ARC (Oerlikon Metco)
- Twin wire arc spray equipment EuTronic Arc Spray 4 HF (Castolin Eutectic)
- Vacuum tempering and nitriding furnace B54RN (B.M.I)
- Electric furnaces for heat treatment with the possibility of carburizing and nitriding
- Technical parameteres of the workplace: max. lenght of componnets 6 m, max. diameter of components 1,6 m, max. weight of rotating parts 6 t, load capacity of cranes 10 t

www.vzuplzen.cz

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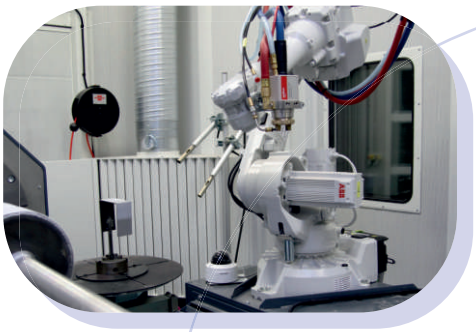
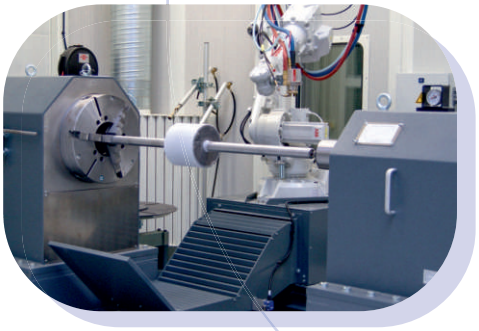


Spraying technologies in VZÚ Plzeň

- High velocity flame spraying – HP/HVOF
- Flame spraying - PFS
- Twin wire arc spraying - AS
- Atmospheric plasma spraying - APS
- More than 500 types of coating materials
- Pure metals, carbides, superalloys, ceramics, cermets, and polymers
- Resistance to abrasive and erosive wear, corrosion, and oxidation
- The possibility of providing thermal spraying on-site

Development and testing of coatings

- Development of high-performance coatings for specific applications
- Design and implementation of industrial solutions
- Testing of mechanical, tribological and chemical properties of coatings
- Testing to determine abrasive resistance according to ASTM G65
- Testing to determine adhesive strength according to ČSN EN ISO 14916
- Testing to determine slippery properties according to ASTM G133
- R&D project solving with support of grants and subsidies. Know-how of securing subsidies even for our partners



Industrial applications

- Energetic industry applications (regulators, plungers, pistons, shafts, etc.)
- Aviation industry (aircraft engine and landing gear components)
- Automotive industry (cutting molds, etc.)
- Paper and Glass industry (rolls, shafts, etc.)
- Slippery and anti-wear surfaces
- Sealf-sharpening coatings, thermal barriers, protection againts abrasion and corrosion
- Annealing, quenching, nitriding of tools, collets, bushings, etc.
- Preparing semi-finished products for further processing

Aero | VODOCHODY · DOOSAN Doosan Škoda Power · Faiveley TRANSPORT · GE Aviation · GÜHRING · MOLINS a coesia company

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