

## HVOF RiTech®

### Robotically Integrated Technology for High-Performance Valves

#### What is HVOF RiTech®?

HVOF RiTech®, or Robotically Integrated Technology, is a proprietary compressive spray technique developed by ValvTechnologies to improve product performance. This proprietary process allows for exceptional quality control and higher bond strengths.

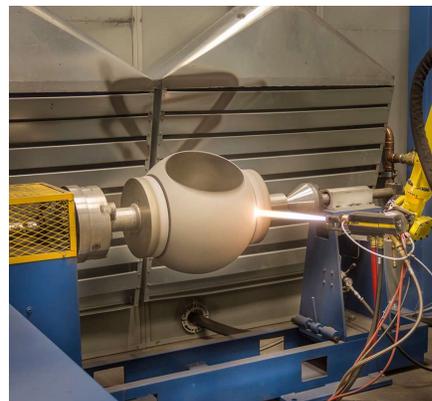
#### What is the ValvTechnologies' HVOF RiTech® process?

ValvTechnologies' HVOF RiTech® is a high velocity oxygen fuel coating process, with properties of high density and negligible porosity. A hot, high velocity gas jet sprays a coating of molten particles onto the ball and seat surfaces. An oxygen fuel mixture is forced through a spray gun nozzle and ignited. A mixture of powdered materials (tungsten, carbide, nickel, chromium, etc.) are also forced through the spray gun nozzle. The ignited gas forms a circular flame surrounding the powder as it flows from the nozzle for uniform heating, melting and acceleration (5000-6000°F at >7000 fps).

#### Benefits of HVOF RiTech®

- Improved quality
- Abrasion/corrosion protection
- Improved wear resistance
- Improved performance
- Ability for components to operate in higher and/or lower temperatures
- Ability to operate in the most severe service applications
- Improve efficiency

Proprietary  
compressive  
spray process  
resulting in  
higher bond  
strengths



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**HVOF RiTech® Selection Chart**

Grade designation	Composition (% by weight)	Hardness HV <sub>300</sub>	Porosity (Max Vol %)	Comparative Attributes
RiTech® 21	86 WC, 10 Co/4 Cr	1050 min	1.0	Outstanding for abrasive wear. Superior acidic corrosion resistance.
RiTech® 25	73 WC, 20 Ni/7 Cr	950-1150	1.0	Excellent corrosion & oxidation resistance. Superior wear resistance.
RiTech® 28	88 WC + 12 HAST C	1050 - 1250	1.0	Outstanding corrosion resistance. Excellent sliding wear resistance.
RiTech® 31	75 Cr <sub>3</sub> C <sub>2</sub> , 25 Ni-Cr	850 min	1.0	Outstanding corrosion resistance. Excellent sliding wear resistance.

All HVOF RiTech® Coatings above have adhesion strength of min. 10,000 PSI. (ASTM B633).