



SEVERE SERVICE BALL VALVES

Significant benefits of Engis Hyprez Diamond Compounds include superior surface finishes in less time with no scratches. Our slow drying formulations allow for fewer charging cycles, with increased cut rate compared to other compounds. Less down time and faster lapping rates. Reduce overall lapping time up to 40%. With precision cutting action, less time and pressure is needed per lapping stage, reducing scratching and operator fatigue. Engis Hyprez Lapping Compounds contain our quality-controlled diamond particles, that are micronized in our industry leading manufacturing laboratories. Our diamond compounds are manufactured to the most exacting standards, eliminating oversized abrasive particles. No particle agglomeration or excessive dry out during processing, resulting in scratch free surfaces to achieve the zero-leak goal.

Compound Type	L	W	FiveStar (FS)
Solubility	Oil	Water	Universal (Oil/Water)
Companion Lubricant	OS-IV	W Lubricant	OS-IV or W
Compound Package Options	Syringe(5,18,50,100 gram), Hyplicator®(10 gram) or Jar(100, 5000 gram)		

CASE HISTORY

Repair of Severe Service Ball Valves coated with Tungsten Carbide.

Goal: Increase throughput and decrease leak test failures. Previous compound: unrefined diamond, fast drying. Finish below 4 Ra required to pass leak test. Match lapping of seat/ball, manually and by machine. Frequent scratches during progressions, resulted in repeating steps, scrap of some balls/seats due to depth of scratch or lack of coating thickness. Compounds dried out quickly, excess application, repeat each step numerous times. Excessive force required to get cutting action. Up to 15% failure rate at test stand.

With use of Engis Hyprez Diamond Compound eliminated errant scratches during progressions. Longer useful life per charge (no drying out) with faster cut rates, and less pressure. Doubled run time between charges.

- Reduced number of charges by 20% and 15% reduction in usage.
- Improved operator ergonomics.
- 25% reduction in lapping time.
- Test stand failures below 1%.
- Increased plant capacity for repairs due to less rework.

Engis diamond engineers can assist you in the proper selection of our specially formulated compounds to match your application, operating parameters, and materials. Stainless Steel, Titanium, Inconel, Carbon Steel with Tungsten or Chromium Carbide Coatings.

Hyprez Diamond Compound is available in pastes, gels, and pourable/pumpable options, depending on user needs. All options are available in diamond sizes ranging from 0.1 – 60 microns, with precision graded mono- or polycrystalline diamond. An Engis application engineer can assist you in selecting the best product for your application. Diamond pastes are thick formulations, dispensed from a syringe or jar and manually spread across the part. Pastes are the most commonly used form of diamond compound for hand polishing, and they are used with a companion lubricant.



**Diamond Size Ranging
From 0.1-60 Microns**

ENGIS HYPREZ DIAMOND PASTES

- Elimination of Errant Scratches
- Reduced Compound Usage
- Improved Cut Rates
- Achieve Desired Surface Finishes Faster

Engis originally developed its precision diamond compound to improve gyroscopes for navigation systems in 1940s aircraft. Now, with more than 80 years of experience, Engis is a world leader in the manufacture of high-quality diamond compound, offering the widest range of products in the industry.

HYPREZ[®]
Engis Complete Systems

Leader in Superabrasive Finishing Systems
105 West Hintz Road | Wheeling, IL 60090
P. 847-808-9400
info@engis.com | www.engis.com