

WPC Molybdenum Processing



Unlike the general WPC process, molybdenum disulfide powder, which is well known as a solid lubricant, is directly injected. By doing so, the solid lubricant diffuses and penetrates into the metal surface structure, and at the same time, fine irregularities are formed on the surface, enhancing the oil film retention effect. This double effect increases and reduces friction, and reduces the generation of frictional heat. This reduces the seizure load and significantly improves engine damage.

Product Name	Processing content	price	remarks
1. Connecting rod metal	Improved sliding properties	¥780/1 piece	Load-bearing, wear-resistant, and friction-resistant
2. Main metal (integrated with thrust)	Improved sliding properties	¥910/1 piece	Load-bearing, wear-resistant, and friction-resistant
3. Main metal (no thrust)	Improved sliding properties	¥780/1 piece	Load-bearing, wear-resistant, and friction-resistant
4. Piston (φ70.1-80φ)	Improved sliding properties	¥5,200/1 piece	Load-bearing, wear-resistant, and friction-resistant
5. Piston (φ80.1-90φ)	Improved sliding properties	¥5,850/1 piece	Load-bearing, wear-resistant, and friction-resistant
6. Piston (φ90.1-100φ)	Improved sliding properties	¥6,500/1 piece	Load-bearing, wear-resistant, and friction-resistant

*Please contact us for prices of piston sizes other than those listed.

WPC Processing

Engine Machining

- Objective 1** Improved fatigue strength
 •By spraying 40-200 micron particles onto the metal surface at a speed of 100 m/sec or more, the heat generated by the collision is instantaneous, resulting in a surface heat treatment effect. This significantly increases the surface hardness and internal residual compressive stress, improving the fatigue strength of the material. This increases durability.
- Objective 2** Improved sliding properties
 •By spraying 20 to 200 micron particles onto a metal surface at a speed of 50 m/sec or more, it is possible to increase the surface hardness and form oil reservoirs on the surface consisting of minute arc-shaped recesses. This reduces friction loss, improves chipping resistance, and it exhibits excellent abrasion resistance.



Product Name	Processing content	price	remarks
1. Rocker arm	Improved fatigue strength and sliding properties	¥1,950/1piece	Arm crack and wear countermeasures
2. Valve lifter	Improved sliding properties	¥1,300/1piece	Wear and scuff resistance
3. Retainer	Improved fatigue strength and sliding	¥1,040/1piece	Wear resistance and metal fatigue countermeasures
4. Valve spring	properties Improved fatigue strength	¥1,300 /1piece (Single S/P) ¥2,600 /1piece (Double S/P)	Prevents metal fatigue and wear.
5. Rocker shaft	Improved sliding properties	¥2,860/1piece	Wear and scuff resistance
6. Piston pin	Improved fatigue strength and sliding properties	¥910/1piece	Wear resistance and metal fatigue countermeasures
7. Connecting rod	Improved fatigue strength and sliding properties	¥5,200/1 piece	Wear resistance and metal fatigue countermeasures
8. Crankshaft tip	Improved sliding properties	¥9,100/1piece	Anti-scuff measures (ideal for RS26)
9. Entire crankshaft	Improved fatigue strength and sliding properties	¥78,000/6 cylinders ¥52,000/4 cylinders	Wear resistance and metal fatigue countermeasures
10. M/T coupling sleeve	Improved fatigue strength and sliding properties	¥2,600/1 piece	Wear resistance and improved shift feeling

*Please contact us for details on transmissions and differential gears. We will provide you with a quote.

Palphos + Deflick processing

- Processing 1** Palphos M treatment
 •By using the immersion method, a relatively thin insoluble manganese phosphate film with a thickness of 5 to 15 μ is formed on the metal surface, improving oil absorption and This significantly improves the retention of adhesion. As a result, it is highly effective against wear and galling of sliding parts, and is expected to have a significant effect on wear of not only the treated product but also the mating material. Furthermore, this film penetrates from the metal surface to the inside by about 8/1000, and maintains its effect for a long time. It can last longer and extend the life of the product.
- Processing 2** Defric Coat
 •Molybdenum disulfide (MoS₂) is mixed with several types of solid lubricants, mainly graphite, according to the intended use and sprayed onto the metal surface. This creates a film with excellent sliding properties under high loads and keeps the coefficient of friction low. Coating thickness is usually in the range of 8 to 15μ, but for parts such as pistons where clearance is important, 5 to 7μ is also possible. In addition, Defric matches well with Palphos, and by processing them together, a stronger film can be created.



Product Name	Processing content	4 cylinder/price	6 cylinder/price	remarks
1, piston	Defrick	¥ 24,000/4 pieces	¥36,000/6 pieces	Measures against scratches that tend to occur on the skirt
2, Camshaft	Parhos	¥ 12,000/1 bottle	¥ 14,000/1 bottle	Reduces wear and scratches on cam lobes
3, Camshaft	Palphos + Defric	¥ 29,500/1 bottle	¥ 31,500/1 bottle	Simultaneous processing under particularly harsh operating conditions
4, Camshaft	Deflick only	¥ 26,500/1 bottle	¥ 28,500/1 bottle	Apply to cams that have already been treated with Palphos
5, Rocker arm	Palphos + Defric	¥ 16,400/8 pieces	¥ 20,900/12 pieces	Measures against scratches and wear on the tip and lip
6, Crankshaft	Parhos	¥ 18,000/1 bottle	¥ 20,000/1 bottle	Suitable for Toyota, RB, and other products that cannot be lifted
7, Cylinder block	Parhos	¥ 40,000/unit	¥ 48,000/unit	Protects cylinder walls and stabilizes compression pressure
8, Transmission gear, differential gear, etc.	Palphos + Defric	Please contact us.		Improved scuff and wear resistance of both surface

"Note" About Palphos Cylinder Block

- Limited to cast iron cylinders.
 - If the exterior is painted, it cannot be treated as is. Please make sure to remove the paint before disposing of the item.
 - If cam metal, jack shaft metal, or balancer shaft metal are present, they may be affected by acid.
- After processing, please check the oil clearance. If it is wider, metal replacement is necessary.