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In CFRP

High-Performance CFRP Wear Rings: Cost-Saving Solution for Komatsu Premium Aftermarket Parts - Engineered for Extreme Mining Conditions

Proposal for Komatsu HD465,HD605/HD785
(PN: 566-50-11173 / 561-50-81320)

※CFRP:Carbon Fiber Reinforced Plastic

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1. IntroductionThank

you for taking the time to review our CFRP product literature. We use state-of-the-art carbon fiber reinforced plastic technology to provide lightweight, high-strength products. These products are used in a variety of fields including aerospace, automotive, sporting goods, and industrial products.



2. What is CFRP?

What is CFRP (Carbon Fiber Reinforced Plastics)? CFRP is a composite material that combines carbon fiber and resin. It combines the strength and modulus of elasticity of carbon fiber with the processability of resin, and has excellent properties such as light weight, high strength, and corrosion resistance.

Features

Lightweight: CFRP is 1/4 the weight of steel with the same strength. High

strength: CFRP has excellent strength and rigidity, and retains its shape even under severe conditions.

Corrosion resistance: CFRP is resistant to corrosion and chemicals and has a long service life.

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3. Proposed Products

Proposed products : High-Performance CFRP Wear Rings
(Premium Aftermarket Alternative for Komatsu Parts)

Part contents : High-durability alternative for
Front Cylinder Wear Rings.

Compatible OEM Part Numbers :

566-50-11173 (HD465/605 OD200mm x H90mm)

561-50-81320 (HD785 OD250mm x H120mm or 130mm)

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4. Comparison of physical properties

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機械物性	SG	FS	CS	TS	CIT	FM	SFC $\mu s \times 1$		DFC $\mu k \times 1$	
	g/cm ³	MPa	MPa		KJ/m ²	Gpa	5mm/min	10mm/min	5mm/min	10mm/min

Our company CFRP(A)	1.5	192	282		31	21	0.131	0.198	0.098	0.153
Our company CFRP(B)	1.47	218	501		32	12				

U Co. CFRP	1.2~1.4	150~180	200~290		18~20					
K Co. CFRP	1.35	180	250		30	8				

BC3 (青)	8.73	127	245	275	25	115
MgA (AZ31)	1.8	330	220	250	15	45
AL	2.7	100	79	75~105	10	69
AA		150~550	140~550	150~600	20	70
Cu	8.96	113	230	200~	30	79
SUS304	7.93	500~700	634	520	20	193
CS S45C	7.71	350~700	350~730	345~730	30	210
SS400	7.85	374	749	400~510	30	206
Ti	4.51	275~735	275~735	275~735	10	106

PTFE	2.2	26	11.8	29	3	1.2	0.086	0.148	0.048	0.061
PTFE + bronze60%	3.91	35	70	—	—	2				
PEEK	1.3	142	150	90	40	3.6				
PF	1.59	100	206	100	26	5				
PFA	2.2	30	16.7	40	20	0.6				

※ Friction coefficient : SUS ball

黄色マーキングの値のみ弊社測定値で規格値ではありません。Only the values with yellow markings are our measured values, not standard values.

黄色マーキング以外の値は代表参考値となります。Values other than those with yellow markings are representative reference values.

Save up to 30-50% compared to OEM price

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5. Mounting results

Target Models: Komatsu Heavy Dump Wearing



【HD465 PN: 566-50-11173 】

Proven Durability: Successfully operated for over **1,400 hours** in actual mining fields—doubling the standard 700-hour replacement cycle.



【 HD785 PN:561-50-81320 】

Long-term Reliability: Completed a **12-month** full-scale field test with zero issues under harsh environmental conditions.

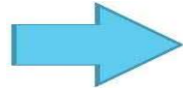
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6. Why is it safe to switch?

- Component materials and physical properties

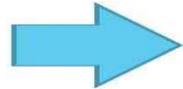
(Genuine product: carbon fiber + resin)



- Equivalent or superior to **OEM products**.

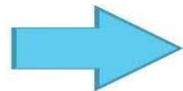
(Our product: recycled carbon fiber + resin)

- Mounting results



- Proven durability: Surpassed double the standard replacement interval in real-world operations.

- Price



- Significant cost reductions are possible

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7. Special Program for New Partners

Field Test Recommendation

As maintenance cycles vary by site, we recommend an initial on-site test to confirm optimal performance in your specific environment.

Data Feedback Discount

Share your field test data (actual hours & wear condition) with us for your second order and receive an exclusive discount.

※Discount applies to your second order onwards.

8. Warranty Policy

Product Guarantee:

We will provide a replacement product only if there are defects in product dimensions or appearance upon delivery.

Limitation of Liability:

Our liability is strictly limited to the replacement of the defective product. We cannot provide any other guarantees, compensations, or cover any indirect costs (such as equipment downtime or labor costs).

Shipping for Replacements:

Shipping costs for replacement products will be covered by us. Replacements will be shipped via **EMS** on a **CFR (Cost and Freight)** basis.

9. Technical Notes

Notice on Product Lifespan

Variable Lifespan: Actual service life depends heavily on your specific operating conditions.

Initial Monitoring: During first-time use, please conduct periodic inspections to check the product's condition.

Replacement Interval: Use initial inspection data to determine the optimal replacement timing for your operations.

Crucial Installation Method: Must disassemble the piston and cylinder before installing the wear ring.

NEVER expand or stretch the cut-ends (slit) to force the ring on, as this will damage the CFRP material.

10. Finally.

Thank you very much for taking a look.