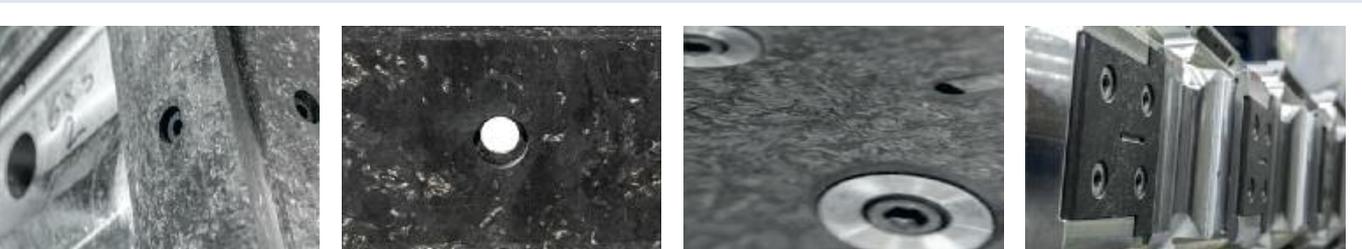


Self-Lubricating elements

Innovative and resistant



WearComp® materials

Lower maintenance costs

Lubrication with grease is a crucial aspect of maintenance. However, grease is expensive to purchase as well as to dispose because it is hazardous waste. It is even more expensive when a good strip has to be scrapped because of grease stains. With its WearComp® materials, SMS group offers customers from the steel and non-ferrous metals industry a cost-effective solution. Developed from a patented compound material, WearComp® signals a revolution for maintenance management. Plant components made from this special composite material are self-lubricating. They make grease redundant.

Competence at first hand

As part of the SMS group, HyComp LLC is specialized in the production of self-lubricating composite bearings and wear plates. These are successfully used across the whole of the basis of the metal industry; from hot, cold and aluminum rolling lines, to treatment plants and processing lines.

HyComp LLC has developed an innovative composite material made from carbon fiber and polyimide resin. Unique resistance and dimensional stability characterize the material. Even with heavy load applications, in temperatures up to 320 °C (600 F), the service life of the material is significantly extended in comparison to conventional materials.

WearComp® features at a glance

- Self-lubricating
- High thermal stability up to 320 °C (600 °F)
- Lower frictional resistance against steel: 0.18 to 0.25 μ
- High Compressive strength: up to 520 N/mm² (75,000 psi)
- Chemical resistance
- Service life is 4 to 10 times longer than conventional materials (aluminum bronze)

Property Description	Units	Degrees	WearComp®	WearComp 200®	FiberComp®	Reference Material (Bronze)
Specific Gravity	[kg/dm ³]	/	1.55	1.59	1.59	8.8
Tensile Strength	[N/mm ²]	23 °C 260 °C	220 186	138 117	83 55	151
Flexural Strength	[N/mm ²]	23 °C 260 °C	345 310	209 173	104 83	/
Flexural Modulus	[N/mm ²]	23 °C 260 °C	34,000 32,000	28,000 27,000	14,000 10,000	120,000 110,000
Compressive Strength	[N/mm ²]	23 °C 260 °C	518 345	297 193	248 173	206
Thermal Expansion (parallel)	[m/m/°C]	/	3,6 x 10 ⁻⁶	3,6 x 10 ⁻⁶	18 x 10 ⁻⁶	/
Thermal Expansion (perpendicular)	[m/m/°C]	/	27 x 10 ⁻⁶	27 x 10 ⁻⁶	18 x 10 ⁻⁶	/

Long life cycle – reduced cost

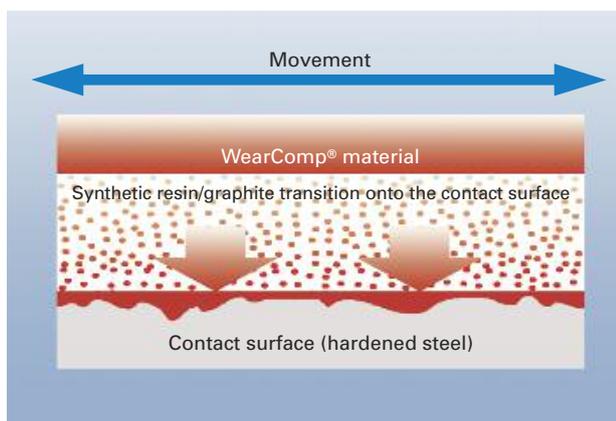
The brands WearComp® and FibreComp® belong to the product portfolio of high temperature, low wear composite bearings. These materials are used in applications to eliminate lubrication and extend bearing life.

WearComp®

WearComp® is a patented mix of high-temperature resistant polyimide resin and carbon fibers. This unique combination offers outstanding mechanical strength, self lubrication, and wear resistance for temperatures up to 320 °C. WearComp® has exceptional compressive strength, which makes it particularly suited to liner and bearing sleeves and sliding plates subject to high stresses.

WearComp®200

The WearComp® base mix is supplemented with graphite for WearComp®200. This leads to an additional reduction of the static or dynamic frictional coefficient. Therefore similar strength properties to the parent material are achieved with enhanced lubricity.



Transition of the self-lubricating film onto the contact surface.

FibreComp®

FibreComp® uses the same resin system as WearComp, but incorporates milled carbon fiber and graphite for applications that require more lubricity. FibreComp® achieves the lowest frictional coefficient and the best mechanical properties. It is used for applications with high rotational speed and low impact intensity.

H320®

H320® uses the same resin system as WearComp, but incorporates 1” chopped glass fibers, instead of chopped carbon fiber. The implementation of glass fibers creates a material that excels as an insulator.



Short carbon fibers.

Fields of application and examples

Knife gap adjustment of cropping and dividing shears

- Changing cycle of 2-3 years
- No contamination of the end-product
- Less wear
- Longer service life of the material



Scrap shears

- Changing cycle of 3-4 years
- Grease-free guiding of the knife
- No contamination of the end-product
- Less wear
- Longer service life of the material



Coil mandrels for the cold and aluminum sectors

- Changing cycle of 2-5 years
- No collisions due to insufficient lubrication
- Safe operating function
- No contamination of the end-product



Tailored to your needs

Under the umbrella of the SMS group, HyComp LLC produces plant-specific structural components from WearComp® material according to customer specifications. This enables the best possible fitting accuracy.

The structural components can be produced to specific dimensions from solid WearComp®, allowing it to satisfy different designs for plant components.

The service experts of the SMS group will gladly help you to find the optimal solution for your plant.

Benefits of WearComp® Chocks

Production

- No contamination of the end-product
- Reliable quality
- Higher yield
- Reduced failure of sliding blocks

Operational Expenditures - OPEX

- No longer any need to procure and dispose of grease
- Maintenance of the lubrication system no longer necessary
- Longer plant maintenance intervals

Occupational safety

- Increased occupational safety
(no fires and accidents caused by grease)
- Simplifies the function monitoring

Individual manufacturing operations

- Tailor-made design possibilities



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"The information provided in this brochure contains a general description of the performance characteristics of the products concerned. The actual products may not always have these characteristics as described and, in particular, these may change as a result of further developments of the products. The provision of this information is not intended to have and will not have legal effect. An obligation to deliver products having particular characteristics shall only exist if expressly agreed in the terms of the contract."