

WE KEEP THE WORLD SPINNING



the BEST in&out

by **PROSINO**
borgosesia rings

STEELHAWK:

the reply to your answers

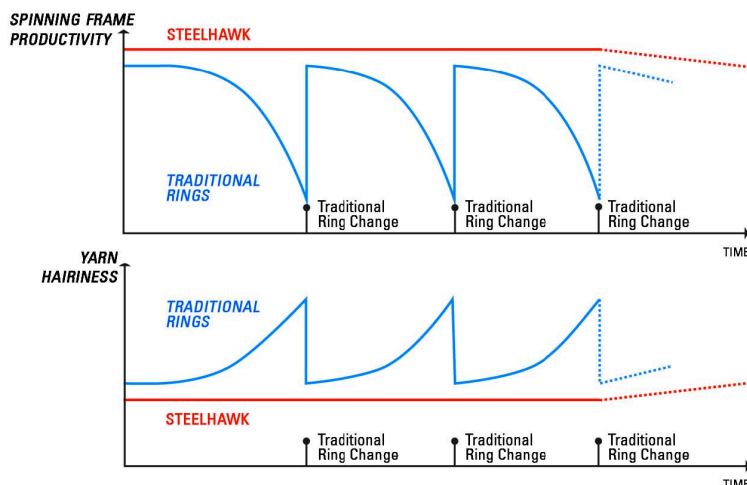
STEELHAWK represents the latest spinning ring development based on 65 years collaboration between PROSINO and the most demanding OEM's and mills worldwide.



EXCELLENT PAYBACK

NO RUNNING IN

Traditional spinning rings require the so called "break-in" procedure that creates a steel tribo-oxidation. The STEELHAWK spinning ring has a special non-metallic dry lubrication coating that allows you to start the new ring at full speed without any long and un-productive running in schedule.



NO NEED OF SPECIAL TRAVELLERS

STEELHAWK rings do not require special travellers and superior performance is achieved using international traveller manufacturing brands. Customized flange profile can be supplied upon request.

Steelhawk spinning ring is giving the following economical advantages:

- No waste of time and productivity (consequently money saving) thanks to the no running in procedure. It's possible to start at full speed with the normal traveller number.
- No deterioration of ring surface thanks to its plasma-like coating that doesn't allow micro-welding between ring and traveller.
- The amount of yarn breaks are controlled in a better way thanks to the more stable yarn tension, allowing a better frame productivity.

OUTSTANDING YARN **QUALITY**

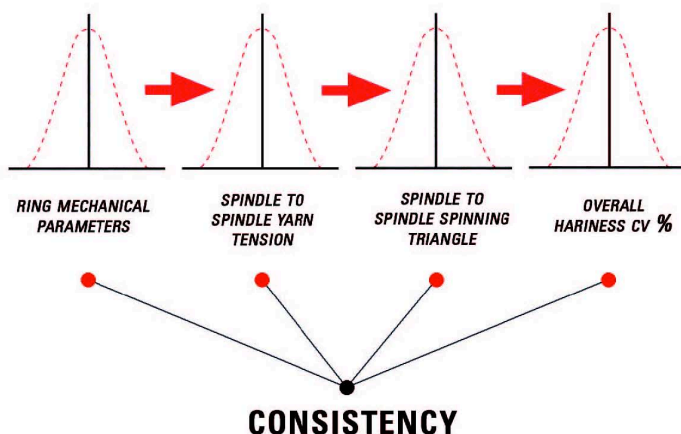


SUPERIOR SPEED and **1st** CLASS CONSISTENCY

High working speed can be reached with STEELHAWK spinning ring thanks to the following factors:

- Low roughness (less than 0,2 μ RA).
- Ultra precise flange profile achieved thanks to the unique PROSINO form turning technology.
- Dry lubrication anti wear plasma-like coating.
- Very high consistency of all mechanical parameters (out-of-roundness, hardness, roughness).

STEELHAWK VIRTUOUS CIRCLE

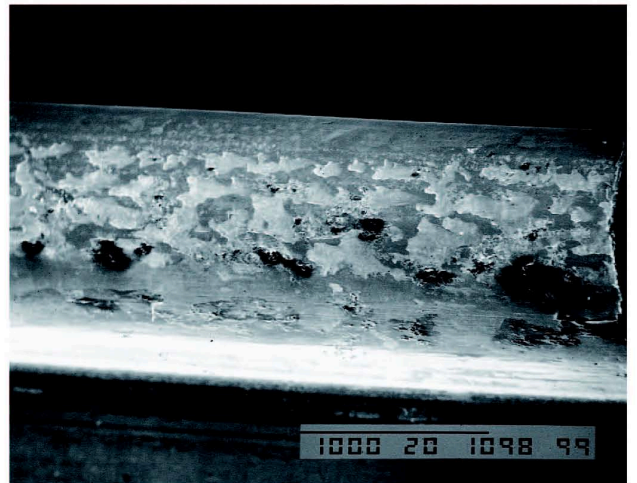


STEELHAWK spinning ring helps the reduction of hairiness providing a smooth surface for a long period of time on all spindle positions.

Hairiness, among its several sources, has its root cause on the dimension of spinning triangle.

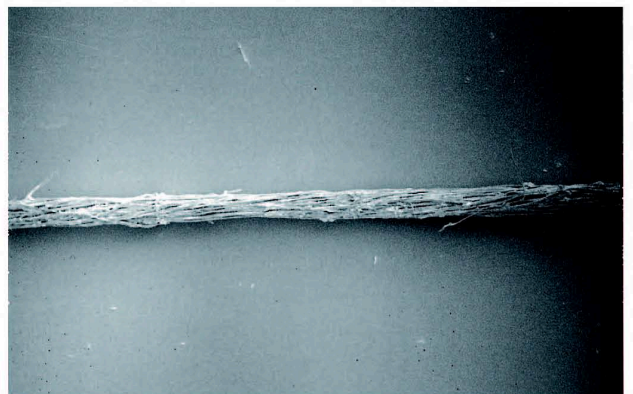
The area of the spinning triangle change over time due to the change in yarn tension, which is strongly influenced by the coefficient of friction between ring and traveller.

When the ring surface is worn out (see picture), the coefficient of friction changes.



TRADITIONAL RING WORN OUT PATTERN

STEELHAWK ring, thanks to the non metallic plasma-like coating keep its smoothness over the years, giving a significant contribution to the control of yarn tension, spinning triangle and ultimate yarn hairiness.



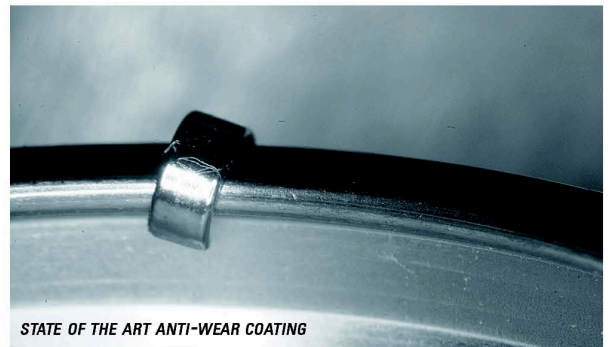
ELECTRONIC SCANNING MICROSCOPE YARN ANALYSIS



HIGH WEAR RESISTANCE

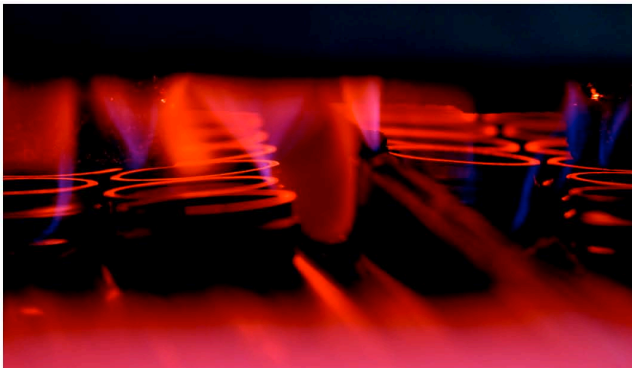
The long experience developed in the last 65 years in the field of spinning ring manufacturing and marketing, has put PROSINO in the position to master the special plasma like coating. This coating has an excellent resistance even in the most harsh working environment (compact cotton spinning, dyed synthetics, 100% rayon).

PLASMA-LIKE COATING



STATE OF THE ART ANTI-WEAR COATING

Long time experience, field trials, continuous customer feed-back have given a fundamental contribution to the definition of the best coating to be applied on STEELHAWK spinning ring.



CORE HARDNESS HEAT TREATING

RAW MATERIAL and HEAT TREATMENT

PROSINO puts the maximum care also on the core structure of the ring which is the beginning base of the product.

Made in high carbon, high chrome core hardened 100CR6 ball bearing steel, STEELHAWK has been developed by using our 20 plus years of experience in the manufacturing of super precision and aerospace bearings.

These products are produced for the most prestigious first class manufacturers such as SKF, FAG, INA and SNR-NTN.

The raw material used by PROSINO is an outstanding low sulfur, high purity steel that undergo the most challenging inspection before been released as "OK for production".

Heat treatment, thanks to subfreezing step allow the perfect over time dimensional stability.



SPECIAL CRYOGENIC SUBFREEZING TREATMENT

SPINNING PERFORMANCES EXAMPLES

Ring ID	Fiber	Twist	Count (Ne)	R.p.m.	m/s	Traveller ISO weight	L = Specific Pressure on Ring in Nm
36	100% Cotton	Weaving	40	21.000	39,58	31,5	2742
36	100% Cotton	Weaving	60	22.700	42,79	22,4	2278
36	100% Cotton	Weaving	80	22.700	42,79	18	1831
38	100% Viscose	Weaving	30	17.000	33,82	56,0	3372
38	100% Cotton	Weaving	80	22.700	45,17	18,0	1933
38	100% Cotton	Weaving	40	20.300	40,39	23,6	2026
38	100% Cotton	Weaving	50	21.000	41,78	16	1470
40	100% Cotton	Weaving	24	17.500	36,65	50,0	3358
40	100% Cotton	Weaving	40	19.800	41,47	22,4	1926
40	Poly/Cotton	Weaving	30	18.500	38,75	56	4204
40	Poly/Cotton	Weaving	32	18.500	38,75	56	4204
41	100% Cotton	Weaving	20	16.500	35,42	71,0	4345
41	100% Polyester	Weaving	20	16.500	35,42	63,0	3856
45	100% Polyester	Weaving	8	9.000	21,21	200	3997
51	100% Polyester	Weaving	14	7.800	20,83	250	4253

QUALITY CONTROL AT ALL STAGES

Total Quality is the basis of the company's operations and committed long term objective to achieve every manufacturing process. High quality standards and consistent controls in each production phase permit the manufacture of reliable products with zero ratio defectiveness.

Controls for incoming raw material are performed by the metallurgical laboratory conducting tests for Brinnell hardness and analysis of any non-metallic inclusions.

For every turning stage dimensional controls with S.P.C techniques are performed to the Rings main dimensions and during this entire process, constant visual checks and roughness controls are performed by qualified personnel. Approval for production commencement is manually performed using both profile projector and profilometer. Heat treatments are followed by superficial Vickers hardness checks and core Rockwell hardness tests. The metallurgical laboratory conducts further tests to the heat treated steel structure, austenitic grain size and the level of residual austenite.

Final attentive and precision checking provides the required quality level to match the most demanding spinners.



OUR ADVANTAGES, YOUR BENEFITS

When it comes to spinning and twisting rings, **PROSINO S.r.l.** is the market leader with an yearly manufacturing of more than **9.000.000** rings and world market presence since 1946.

Maximum focus on the product, technical skills, great experience, fully automated manufacturing, **OEM's*** partnership, consistency in quality, maximum care in before and after sales, **PROSINO S.r.l.** is the right partner of the best spinning mills worldwide.

That's why we are proud to say that
WE KEEP THE WORLD SPINNING!



MEMBER OF



RETAILER AGENT

