

WE KEEP THE WORLD SPINNING

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PROSINO[®]
borgosesia rings

STEELHAWK: the best ring you could ask for

STEELHAWK represent the state-of-the-art spinning ring, based on 70 years + years of collaboration between PROSINO and the most demanding OEM's and spinning mills worldwide.



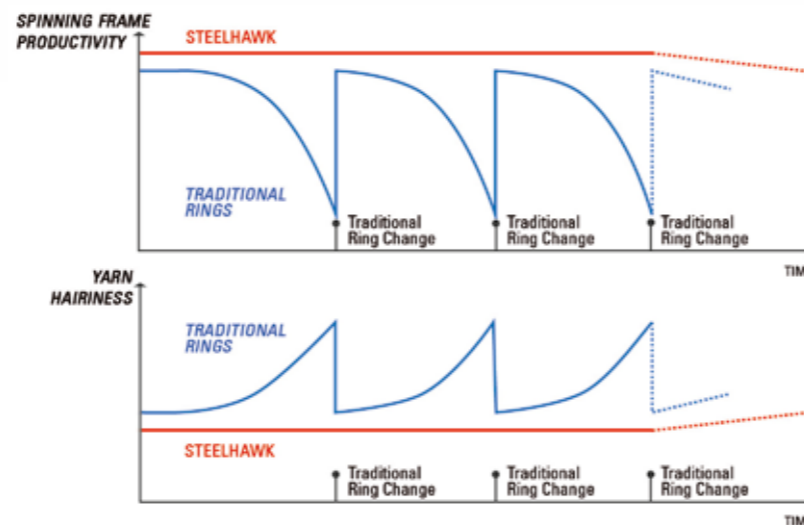
NO RUNNING IN

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.

EXCELLENT PAYPACK



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

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.

SUPERIOR SPEED and 1st CLASS CONSISTENCY

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

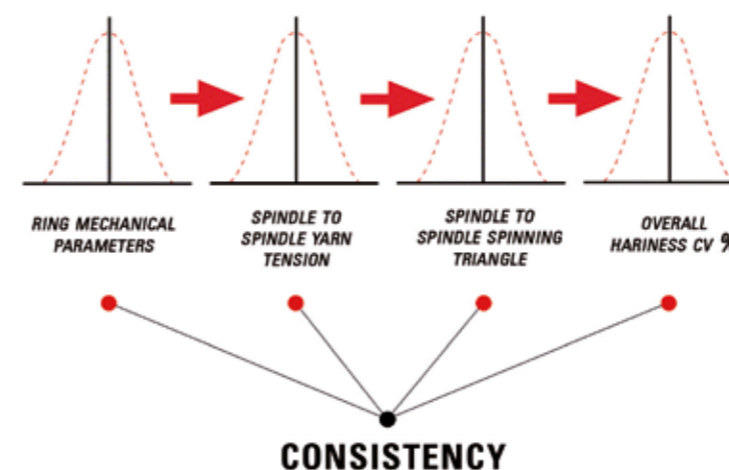
- Low roughness (less than 0,2 uRA).
- Ultra precise flange profile achieved thanks to the unique PROSINO form turning technology.
- Dry lubrication anti wear plasma-like coating.
- Very high consistency of all mechanical parameters (out-of-roundness, hardness, roughness).



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.

STEELHAWK VIRTUOUS CIRCLE



ELECTRONIC SCANNING MICROSCOPE YARN ANALYSIS



HIGH WEAR RESISTANCE

The long experience developed in the last 70+ 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).

RAW MATERIAL and HEAT TREATMENT

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

Made in high carbon, high chrome core hardened 100Cr6 ball bearing steel, Steelhawk has been developed also thanks to the experience gained in 30+ years collaborationship of PROSINO in the field of super-precision and aerospace bearings to the most prestigious first class manufacturer such as SKF, SCHAFFLER (FAG - INA), GMN and NTN-SNR.

The raw material used by PROSINO is 100% European 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.



PLASMA-LIKE 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.



STATE OF THE ART ANTI-WEAR COATING



CORE HARDNESS HEAT TREATING



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	Knitting	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	3372
38	100% Cotton	Weaving	80	22.700	45,17	18	1933
38	100% Cotton	Knitting	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	3358
40	100% Cotton	Knitting	40	19.800	41,47	22,4	1926
40	Poly/Cotton	Knitting	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	4345
41	100% Polyester	Weaving	20	16.500	35,42	63	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 basic 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.



A STATE OF THE ART FACILITY

Located near Milan, Italy PROSINO is the largest international manufacturer spinning ring facility. Highly integrated, full digitally linked it has produced since its beginning more than 350.000.000 rings.



TURNING DEPARTMENT



HEART TREATMENT DEPARTMENT



VIBROPOLISHING DEPARTMENT

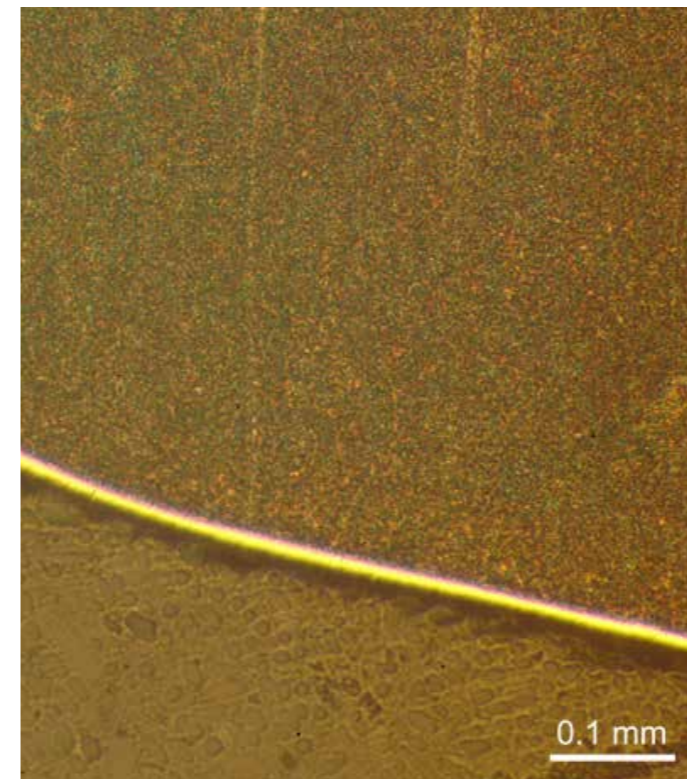


QUALITY CONTROL DEPARTMENT

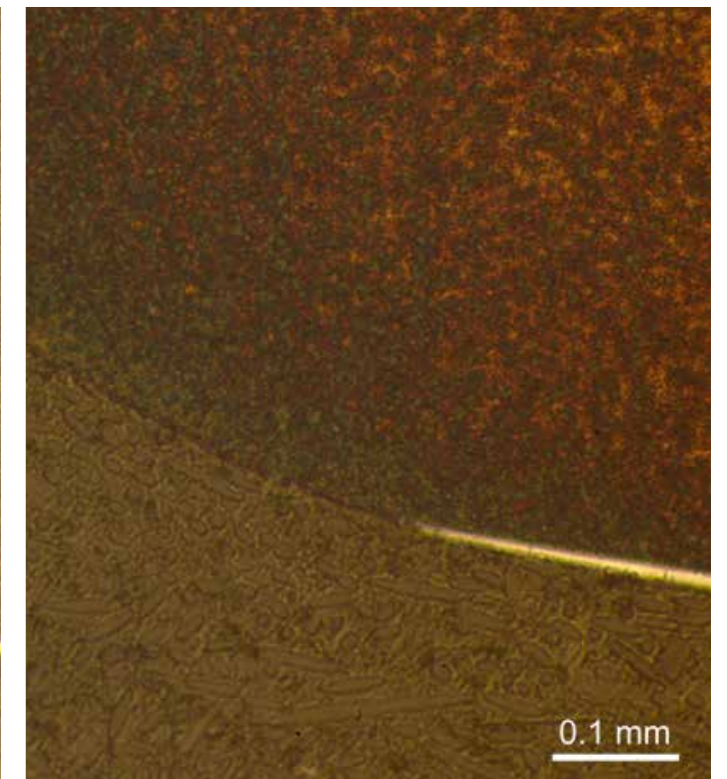
THE 10 REASONS WHY YOU MUST SELECT STEELHAWK RING

1. Consistency in quality of yarn through out the life thanks to the special plasma like coating
2. Higher load bearing capacity thanks to the excellent raw material used
3. Higher working speeds with minimum breaks level thanks to the core hardness heat treatment
4. Longer life cycle up to 10 years (*)
5. No running in schedule
6. Better area of contact of traveller thanks to the special form tool flange manufacturing
7. No need of special travellers. Finally the freedom you always wanted
8. Faster settling time in case of count/ mixing change
9. Extended traveller life subject to conditions
10. Excellent in compact spinning and high speed synthetics segment thanks to the non metallic coating with lubricating capacity

(*) According traveller lifetime in days



STEELHAWK PLASMA COATING AFTER 58 MONTHS (*)



COMPETITOR FLANGE COATING AFTER 40 MONTHS (*)

Count Ne 20, Ring ID 38 mm, RPM 19.800, 100% Polyester, Indian market - Analysis done on the inner flange area

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

