MSYT

Midas Safety Yarn Technology

Technical Yarns and Fabrics

MIDAS SAFETY

About Us

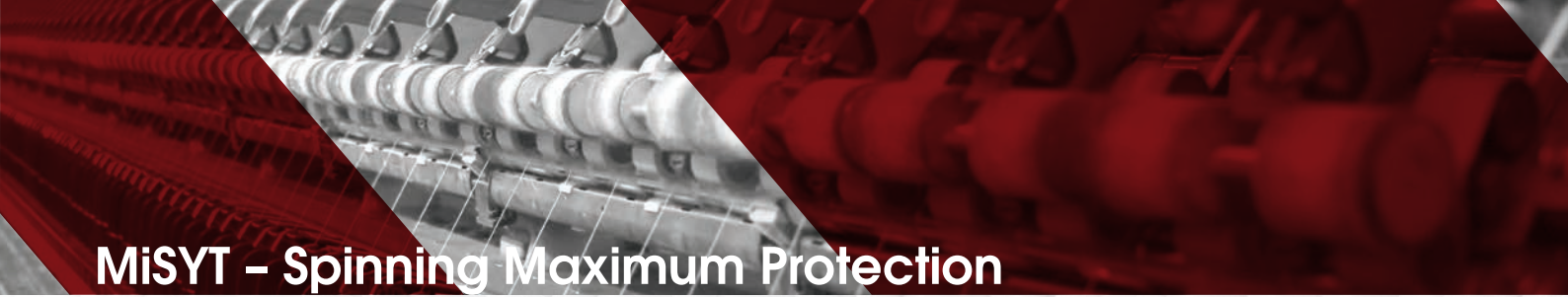
Midas Safety is one of the world's largest private-label suppliers of industrial safety gloves. From humble beginnings in 1983, we have grown to become the proud supplier of safety gloves to over 50 countries around the world.

Midas Safety started its technical yarns in the year 2013 under its business unit-**Shahbaz Garments Pvt Ltd (SGL)**. We are now operating with latest core and friction spun yarn frames both for rigid and flexible core along with plied yarns with a capacity of producing 60 tons a month. This diversified plant produces a wide range of standard spun, glass core spun, steel core spun and other composite technical yarns for modern days industrial needs.

By using our own made high quality Technical Yarns, we've been able to develop a range of Protective Fabrics having superior performance and comfort than equivalent products in the market. By using our composite and engineered yarns, our fabrics can achieve highest cut resistance levels without compromising on comfort.

Responding to emerging trends in the spinning industry and exporting yarn to international market, we maintain fair, friendly, and creative work environment, which inculcates diversity, new ideas and diligence. We have the technology to transform the dreams of absolute quality into reality.

We believe in working very closely with our clients and treat them as our business partners, thus meeting their needs with latest technology and innovation.



MiSYT – Spinning Maximum Protection

The "**Safety**" in **Midas Safety** is more than a word, it is the credo ingrained in our very DNA. Being vertically integrated all the way upstream to the manufacture of yarns, Midas Safety has developed a range of technical yarns and fabrics – MiSYT – **Mi**das **S**afety **Y**arn **T**echnology.

Using state of the art ring spinning machines, high quality cores, fibers and our proprietary blends, MiSYT yarns and fabrics provide excellent protective properties.

MiSYT offers a variety of Cut, Abrasion, Thermal and Fire-resistant solutions in the form of technical yarns and fabrics that are strong yet comfortable. The strength in the core and comfort in the sheath makes our products the best fit for your needs.

MiSYT Midas Safety Yarn Technology

Our Yarns

Flame Resistance Range

- Standard Spun
- Flexible Core Spun

Cut Resistance Range

- Standard Spun
- Glass Core Spun
- Steel Core Spun
- Composite

Comfort Range

- Standard Spun
- Flexible Core Spun

Sustainable Range

- Standard Spun
- Core Spun

Sewing Threads

- Para Aramid
- Polyester
- Meta Aramid

MISYT Midas Safety Yarn Technology

Flame Resistance Range

These yarns are developed to meet with increasing demand of thermal, mechanical requirements of industrial application. These yarns are customizable.

FEATURES

- Flame resistance
- High strength
- Soft and comfortable
- Can withstand several washes

APPLICATIONS

- Protective Gloves
- Protective Socks
- Protective clothing
- Composites

TYPE	COMPOSITION	COUNT RANGE	COLOR RANGE
Standard Spun Yarn	meta Aramid Modacrylic – Viscose para Aramid – Viscose meta Aramid – Modacrylic meta Aramid – para Aramid – Anti Static para Aramid – Modacrylic para Aramid – Carbon fiber para Aramid – Modacrylic – Viscose FR	Ne 8 – 40 Nm 14 – 68 (Single & plied)	Raw White Yellow Black Blue

Cut Resistance Range

These yarns are made on ring spinning machines with and without core to use for cut resistance applications.

Steel/Glass core cut resistant yarns are made on ring core spinning machines having steel/glass in core with sheath of staple fibers which provide excellent cut protection in multiple applications.

Composite or engineered yarns are made using two or more components, the combinations are endless. High-strength fibers like para-aramid or high-performance polyethylene (HPPE) are used with a reinforcement "core" like fiberglass or steel.

FEATURES

- Cut resistance
- High strength
- Abrasion resistance
- Soft and comfortable
- Can withstand several washes

APPLICATIONS

- Protective Gloves
- Protective Socks
- Protective clothing
- Cut resistance Sleeves
- Composites

TYPE	COMPOSITION	COUNT RANGE	COLOR RANGE
Standard Spun Yarn	para Aramid para Aramid – HPPE para Aramid – Polyester HPPE – Viscose HPPE – Polyester	Ne 8 – 40 Nm 14 – 68 (single & plied)	Yellow Black Dark Green Orange Grey
Steel core yarns	Steel – Polyester Steel – para Aramid Steel – para Aramid – HPPE Steel – para Aramid – PSF Steel – para Aramid – Modacrylic Steel – Polyester – Tencel Steel – Polyester – Viscose	Ne 10 – 24 Nm 17 – 40 (Single & plied)	Yellow Black Orange Green
Glass Core Yarns	Glass – para Aramid Glass – para Aramid – HPPE Glass – para Aramid – Pyron Glass – para Aramid – Polyester Glass – para Aramid – Modacrylic Glass – HPPE – Viscose Glass – HPPE – Polyester Glass – HPPE – Nylon Glass – Polyester Glass – Polyester – Viscose	Ne 10 – 24 Nm 17 – 40 (Single and Plied)	Yellow Black Orange Red Blue White Dark Grey
Composite Yarns	Steel – Spandex – HPPE – para Aramid Spandex – Glass – para Aramid – Nylon Spandex – Steel – para Aramid – Polyester Glass – para Aramid – Modacrylic – Carbon Glass – para Aramid – Modacrylic – Wool	Customized Count	Yellow Black Orange Olive green

Comfort Range

These yarns are made on ring spinning machines with highly comfortable materials. These are very good thermally comfortable yarns used for protection from warm and cold environments.

FEATURES

- High moisture wicking
- Soft feel
- High moisture absorption
- Thermo-physiological comfort

APPLICATIONS

- Protection from cold
- Thermally comfortable products
- Protection from warm
- All season fabrics

TYPE	COMPOSITION	COUNT RANGE	COLOR RANGE
Standard Spun Yarn	Acrylic Thermolite Polyester – Viscose HPPE – Nylon – Polyester	Ne 8 – 40 Nm 14 – 68 (Single and Plied)	Raw White Yellow Black Blue
Flexible Core Spun	Spandex – Viscose Spandex – Polyester Spandex – Coolmax Spandex – Thermolite	Ne 10 – 24 Nm 17 – 40 (Single and Plied)	Yellow Black Olive Green

Sustainable Range

By 'sustainable', we mean products that place little or no burden on nature, the environment and all who live in them. The sustainable yarns in our assortment are made from responsible materials that, throughout their production and manufacturing processes, have as little impact as possible on the planet and the humans and animals involved. As part of this responsible production process, attention is paid to compliance with social standards. For example, we strive for fair trade with fair prices and wages, and extra consideration is given to creating a safe and hygienic working environment for every employee involved in the production process.

FEATURES

- Cut resistance
- High strength
- High moisture wicking
- Soft feel
- High moisture absorption
- Thermo-physiological comfort

APPLICATIONS

- Protective Gloves
- Protective Socks
- Protective clothing
- Cut resistance Sleeves
- Composites

TYPE	COMPOSITION	COUNT RANGE	COLOR RANGE
Sustainable Range	RG Polyester-Viscose Glass – RG PSF – Viscose Glass – RG PSF – Tencel Steel – RG PSF – Viscose Steel – RG PSF – Tencel	Ne 8 – 40 Nm 14 – 68 (Single and plied)	Raw White

Sewing Thread Range

Smooth, evenly spun, hard-twisted ply yarn, treated by a special finishing process to make it resistant to stresses in its passage through the eye of a needle and through material involved in seaming and stitching operations.

FEATURES

- High tensile strength
- High loop strength
- High elongation
- Minimum shrinkage
- Abrasion resistance
- Low hairiness

APPLICATIONS

- Clothing Industries
- Sewing embroidery
- Manufacturing of protective products
- Heat resistance
- Workwear

TYPE	COMPOSITION	COUNT RANGE	COLOR RANGE
Sewing Thread	100% para Aramid 100% Polyester 100% meta Aramid	Customized count	Raw White Yellow Black Blue

Our Fabrics

Knitted Fabric for Cut Protection

- Glass core Fabrics
- Steel core Fabrics

Knitted Fabrics for Abrasion Resistance

- 100% Para aramid Fabrics
- Para aramid blended Fabrics

Knitted Fabrics for Flame/Fire Resistance (Inherent)

- Aramid Blends
- Other Blends

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Knitted Fabric – Cut Protection

These fabrics are made with cut resistance core spun yarns for cut protection. Specially designed as an effective, reliable and comfortable shield against sharp edge tools. These fabrics are very soft, comfortable and suitable for wide range of applications.

FEATURES

- Excellent Cut and Tear Resistance
- Soft and comfortable
- Very Good Durability
- Excellent breathability
- Good Abrasion Resistance

APPLICATIONS

- Slash Resistance Clothing
- Cut Resistance Gloves
- Protective clothing
- Biker clothing
- Cut resistant Aprons and sleeves

TYPE	MATERIALS	ASTM F2992	ISO 13997	GSM	COLOR
Steel Core Fabrics (Interlock	Steel – para Aramid Blends	A5	D	250 ± 20	Yellow/Green
		A6	E	280 ± 20	
		A7	F	320 ± 20	
		A8	F	350 ± 20	
		A9	F	360 ± 20	
	Steel – HPPE Blends	A5	D	250 ± 20	White
		A6	E	290 ± 20	
		A7	F	300 ± 20	
Glass Core Fabrics (Interlock)	Glass – para Aramid Blends	A5	D	350 ± 20	Yellow-White
		A4	C	350 ± 20	
		A3	C	285 ± 20	
		A2	C	230 ± 20	
	Glass – HPPE Blends	A4	C	350 ± 20	White/Grey
		A3	B	280 ± 20	

Knitted Fabric – Abrasion Resistance

Heavy duty, durable and weft-stretchable textile providing excellent abrasion resistance and additional tear resistant properties. These are excellent fabrics for both garment and gloves applications.

FEATURES

- Good Abrasion Resistant
- Superior load bearing capacity
- Soft and Comfortable
- High Tear Resistance
- High Strength

APPLICATIONS

- Motorcycle Apparel (Glove, Jackets, Pants)
- Protective Gloves
- Outdoor Apparel
- Covers, Bags and Packs
- Seating (Automotive, Mass Transit)

TYPE	COMPOSITION	Abrasion Level (EN388)	GSM
Para Aramid (Interlock)	para–Aramid Black	3	300 ± 20
	para–Aramid Yellow	2	220 ± 20
		2	180 ± 20
		2	140 ± 20
Para Aramid Blends (Interlock)	para-Aramid – Polyester	X	300 ± 20
		X	250 ± 20

Knitted Fabric – Inherent Flame Resistance

Flame-resistant fabrics are specially designed so that it's less likely to catch fire when exposed to combustion and high temperatures. In cases where the fabric does ignite, it won't continue to burn once the heat source is removed. This gives the wearer valuable escape time and helps to minimize injuries. These are excellent fabrics for both clothing and gloves applications.

FEATURES

- Good Abrasion Resistant
- Superior load bearing capacity
- Soft and Comfortable
- High Tear Resistance
- High Strength

APPLICATIONS

- Electric Arc (Electricians, Electric Utility Lineman)
- Flash Fire (Refinery, Chemical, and Pharmaceutical Workers)
- Combustible Dust Explosion (Paper and Pulp Industry)
- Food Processing, Paint Industries.

TYPE	COMPOSITION	GSM
Aramid Blends (Interlock)	meta-Aramid	200 ± 20
	meta-Aramid – p.Aramid – Anti Static	200 ± 20
	meta-Aramid – Carbon	200 ± 20
	meta-Aramid – Modacrylic	200 ± 20
	meta-Aramid – FR Viscose	200 ± 20
	para-Aramid – Carbon	290 ± 20
	Para-Aramid – Viscose	200 ± 20
	Glass – para-Aramid – Carbon	290 ± 20

TYPE	COMPOSITION	GSM
Other Blends (Interlock)	Modacrylic – Viscose	200 ± 20
	Modacrylic – Carbon	200 ± 20
	para-Aramid – Modacrylic – Viscose	290 ± 20
	para-Aramid – Modacrylic – Tencel	290 ± 20
	Glass – Modacrylic – Carbon	290 ± 20

MACHINERY AND EQUIPMENT

Shahbaz garments Ltd. has realized intelligent, digital and refined manufacturing set up to produce finest quality high-end technical yarns.

Yarn Preparatory process is equipped with state-of-the-art machines of Crosrol (UK), Rieter (Switzerland) and Toyoda (Japan) to process all materials with fine quality.

Ring spinning: The setup at SGL comprises of the latest and advanced machinery imported from Spain, Japan and China to produce fine quality yarns. Ring frames equipped with Steel, Glass and Spandex core attachments produce robust high-performance yarns.

Auto-cone winding machinery from well-known company Savio from Italy serves to produce high quality yarn packages with latest Loepfe Zenit® yarn clearer.

Machinery and Equipment (continued)

Wrap spinning by Hollow spindle spinning technique is also used for composite yarn development for high-end technical applications. Customized products are developed by using state-of-the-art machinery imported from Italy.

Plied yarns are also produced by Two-for-one twisting mechanism for customized product development within the facility by using state-of-the-art technology from Japan.

Quality of yarn is continuously monitored with online quality-control system. Further quality is also checked by latest UT-5 evenness tester by Uster® imported from Switzerland. TDM-100 latest cut-resistance testing machine is also available to check the cut-resistance as per defined standards.

Fabric Knitting facility of SGL consists of fully equipped machinery from Germany and Taiwan for making good quality high performance and technical fabrics in jersey, fleece, Rib and interlock in GSM range from 100 to 800.

Performance of Fabric is monitored with extreme diligence. We are very cautious for the performance levels of high-performance fabrics. TDM-100 and other fabric testing machines are available to test fabrics as per defined standards.

Testing Standards

Standard ASTM F2992-15: Measuring Cut Resistance of Materials Used in Protective Clothing with Tomodynamometer (TDM-100).

The ANSI/ISEA 105 ASTM F2992-15 standard uses a straight blade to measure cut resistance on a 20-millimeter distance. This test ranges from cut levels A1 to A9 and is represented in grams. This scale allows for testing higher cut resistant materials and to more accurately categorize them for results up to 6000 grams.

The test sample is cut by a straight edge blade under a gram load in a straight path. The cutting force is determined by 5 cuts with 3 different loads. The blade is replaced after each cut to assure accuracy. The weight that cuts through the material determines the cut level rating.

Standard ISO 13997:1999: Protective clothing – Mechanical properties – Determination of resistance to cutting by sharp objects

This international standard specifies a cut test method and related calculations for use on materials and assemblies designed for protective clothing. The test determines resistance to cutting by sharp edges such as knives, sheet metal parts, swarf, glass, bladed tools and castings.

*Weight in grams (ASTM F2992-15) or **Newtons (ISO 13997), respectively, needed to cut through material with 20 mm blade travel

Cut Lvl	WT (g)*	Risk factor
A1	≥ 200 g	Light cut risk
A2	≥ 500 g	Light cut risk
A3	≥ 1000 g	Light to medium
A4	≥ 1500 g	Medium cut risk
A5	≥ 2200 g	Medium to high
A6	≥ 3000 g	High cut risk
A7	≥ 4000 g	High cut risk
A8	≥ 5000 g	High cut risk
A9	≥ 6000 g	High cut risk

Cut Lvl	WT (N)**	Risk factor
A	≥ 2 N	Light cut risk
B	≥ 5 N	Light cut risk
C	≥ 10 N	Light to medium
D	≥ 15 N	Medium cut risk
E	≥ 22 N	Medium to high
F	≥ 30 N	High cut risk

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Testing Standards (continued)

EN 388:2016+A1:2018 Mechanical Hazards

a. Abrasion Resistance (Cycles) (Rating 0-4)
b. Blade Cut Resistance (Index) (Rating 0-5 or X)
c. Tear Resistance (Newton) (Rating 0-4)
d. Puncture Resistance (Newton) (Rating 0-4)
e. Cut Resistance (ISO 13997) (Rating X or A-F)
f. Impact Test (Result "Pass" or "Fail")

Performance Level according to EN 388:2016+A1:2018	X	Level 1	Level 2	Level 3	Level 4	Level 5
Abrasion Resistance (rubs)		100	500	2000	8000	N/A
Cut Resistance (index)	Not Tested	1.2	2.5	5.0	10.0	20.0
Tear Resistance (Newton)		10	25	50	75	N/A
Puncture Resistance (Newton)		20	60	100	150	N/A

Cut (ISO 13997)	X	A	B	C	D	E	F
Cut Resistance (Newton)	Not Tested	2	5	10	15	22	30

Weight (Newstos) needed to cut through material with 20 mm blade travel.

Impact (EN 13594)	P (for Pass)
Impact Force Experienced	≤ 7 Kilonewtons

NOTES

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SAFETY

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