

X2 RANGE OF SHIPPING ROPES

J. E. Ibrahim & Co.

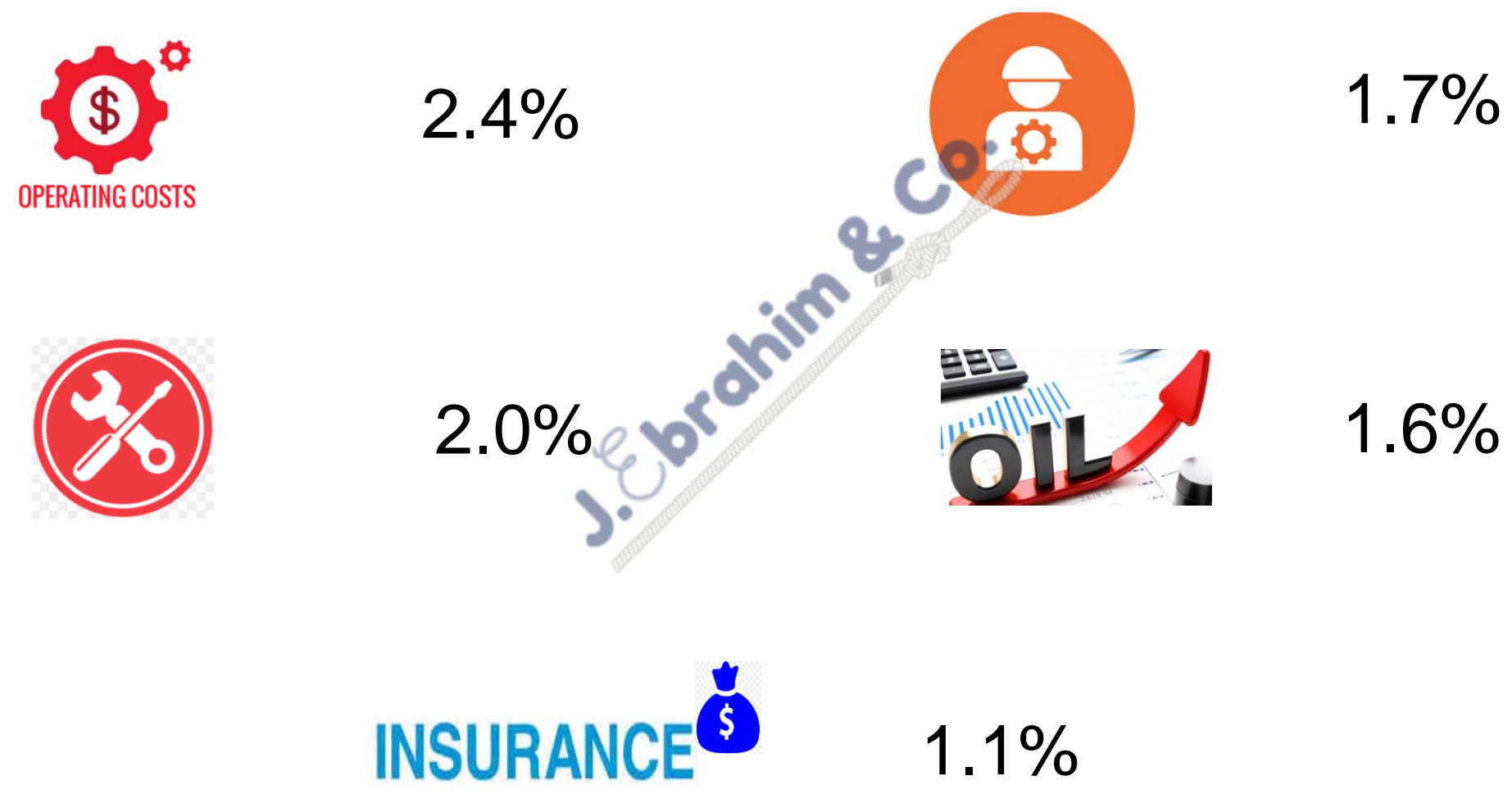
www.garwarefibres.com



GARWARE
TECHNICAL FIBRES

Better Ideas in **Action**

Shipping Sector Projected cost escalations -2020



Shipping Sector Projected cost escalations -2020

- Initial reaction is to opt for Cheap Products
- Mooring Ropes come under the knife
- What we look is the Strength of Rope... Is it enough?
- Give rise to Mooring ropes for different sources and different specs.
- Resulting in Mixed Mooring....!!!
- **The important point is how much strength remains after Cyclic Loading.**

How can Garware Technical Fibres Ltd help?



Challenges – Shipping ropes



- Weight of ropes should be reduced
- Handling of ropes should be easier
- Can the bulk be reduced??

X2 RANGE OF SHIPPING ROPES



ULTIMA

**Mixed Floating Rope for
Tankers**

X2 RANGE OF SHIPPING ROPES

1. DOWNSIZING –

Reduction in bulk , hence improved handling and reduced fatigue

2. BETTER TCLL VALUE

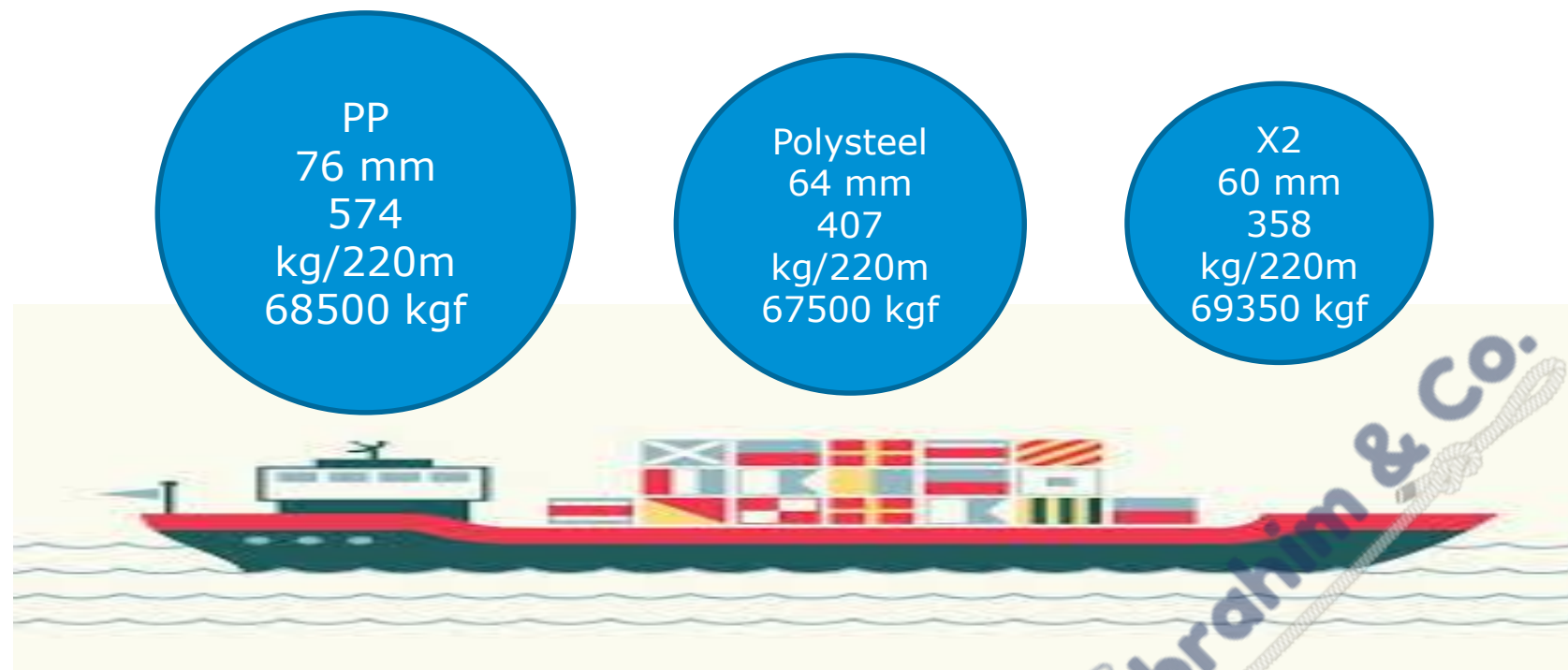
Longer time to retirement, higher value effectiveness

3. LOW SNAPBACK

Crew Safety is most important !

J. Ebrahim & Co.

1. DOWNSIZING & EASE OF HANDLING



- Lower Diameter of Rope
- Better Strength to Weight Ratio
- Better Crew efficiency
- Ease of handling
- Better time utilization
- Less Crew Fatigue

"Every minute that a vessel stays at a terminal means money lost for the shipping company, and this in turn places pressure upon a terminal operator to ensure it does not lose business to more efficient competitors"

UNCTAD 2015: 71.

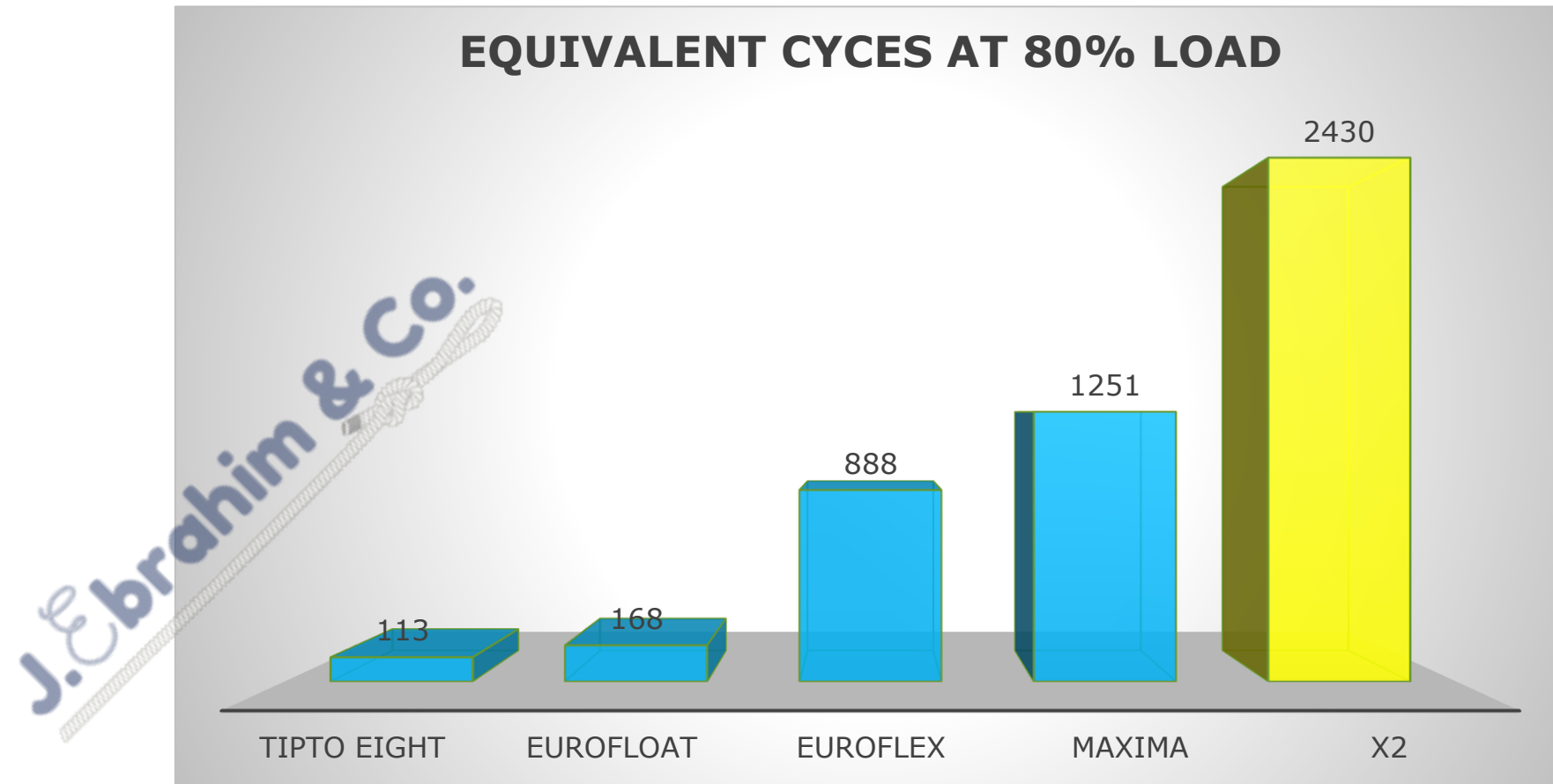
Ease of Handling → **Less Mooring Time** → **Efficiency of Vessel**

X2 Ultima - Features

FEATURE	INTENDED / DESIGN BENEFIT
High Strength	15% higher strength than Mg-Flex
Lower weight	The ratio of weight for same strength is @1.15.
Better Life.	Higher TCLL value
Easy handling	With downsizing, the light weight of rope helps in easy handling
Minimum Maintenance	Easy Spliceable due to softer yarn, Crew members of the ship can splice it easily with less effort & in short time

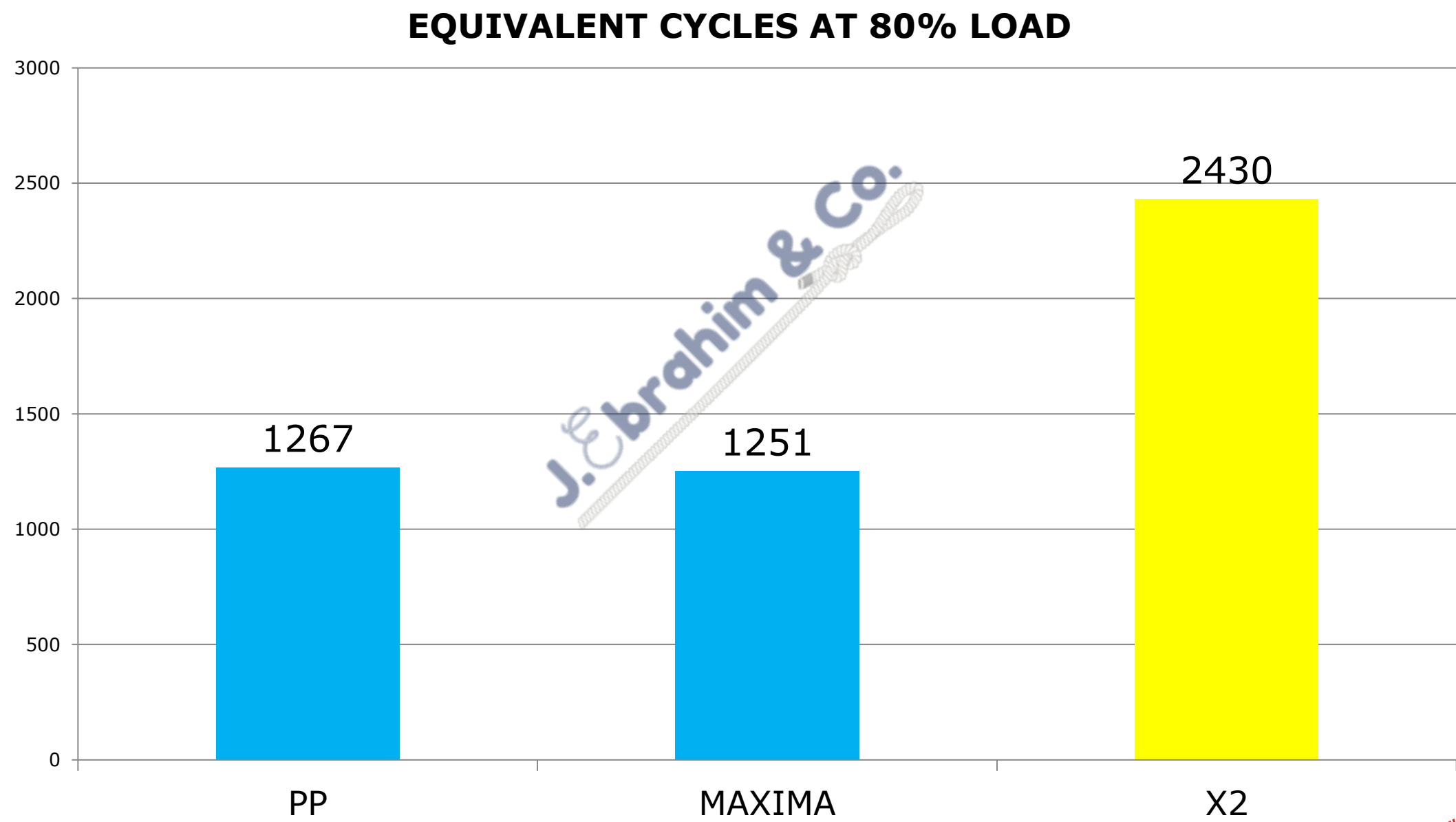
2. HIGHER VALUE EFFECTIVENESS

- TCLL Value highest in class
- Low Yarn To Yarn Friction
- Better Shock absorbance
- Ability to withstand cyclic load
– **highest in its class** –



Longer Usage Life → Lower Cost of Ownership → Lower Operating Cost

TCLL – DETAILS (THOUSAND CYCLIC LOAD LEVEL)



3. LOW SNAPBACK

Mooring Operation – Potentially Most Dangerous Marine Activity

- UK P&I club – **7th Highest Frequency** Incident and **3rd most expensive Claim** Settlement
- American Bureau of Shipping : **30%** injuries by parted lines
- Japanese NKK study : **33%** of all accident due to mooring operation
- Danish Study : **70%** of accidents result of line parting during mooring

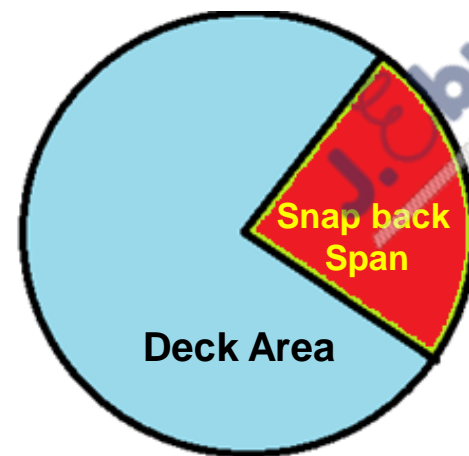


- Last 20 years – **58%** marine injuries during Mooring Operations
- Tankers, Bulk Carriers and Tugs make makes **50%** of Incidents
- **53%** due to Rope Parting...!!!
 - **1:4** chance of Leg injury or **limb loss**,
 - **1:7** chance of **back injury**
 - **1:7** chance of **death**

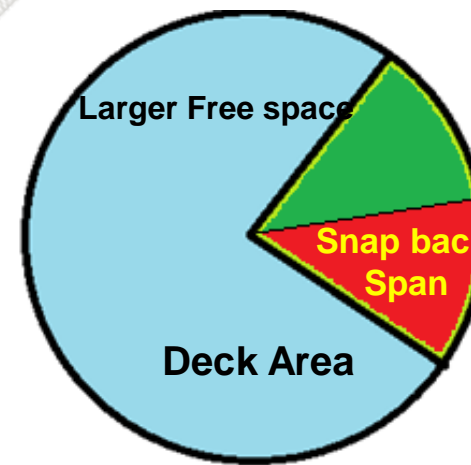
3. LOW SNAPBACK



- **Lower energy absorption**
 - @80% of regular PP ropes and @85% of regular Maxima ropes
 - *Lower snap back*
 - *Safer in case of accidents*

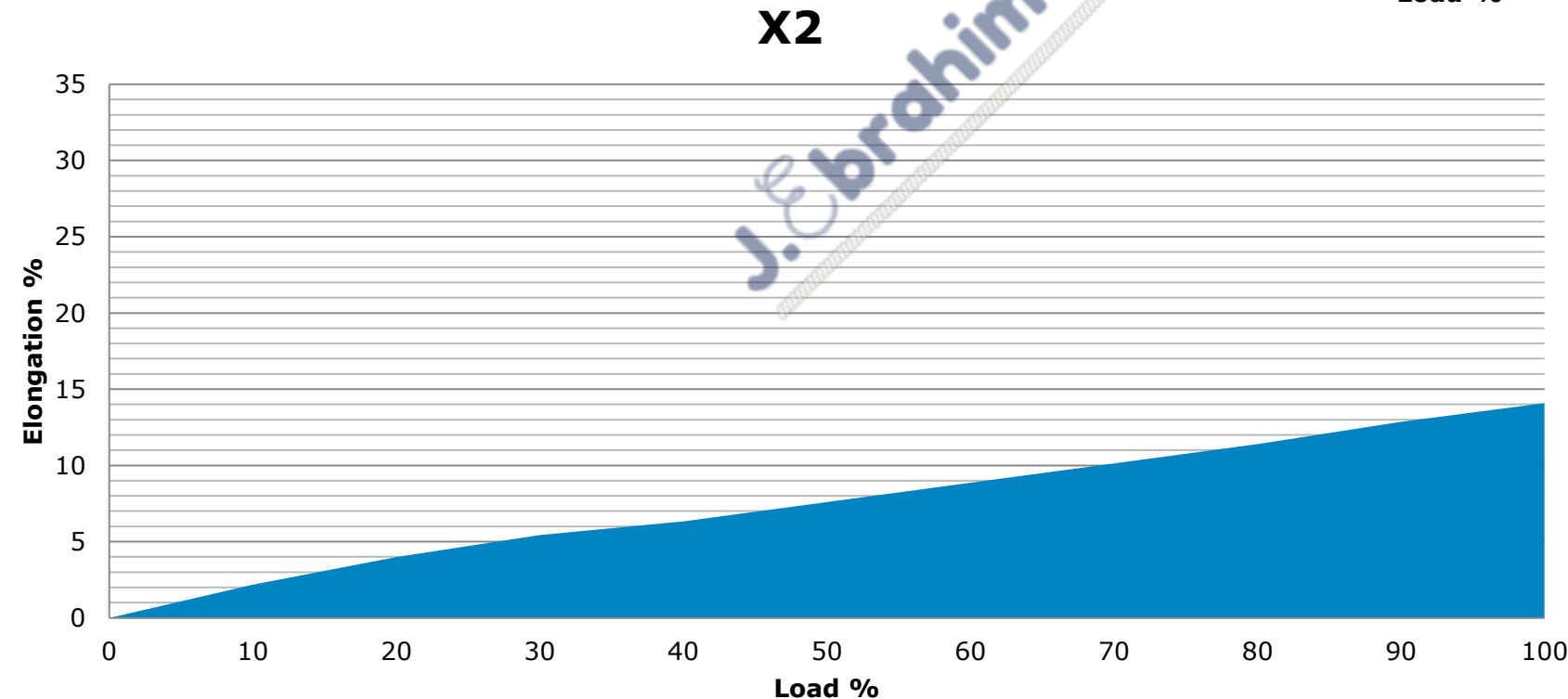
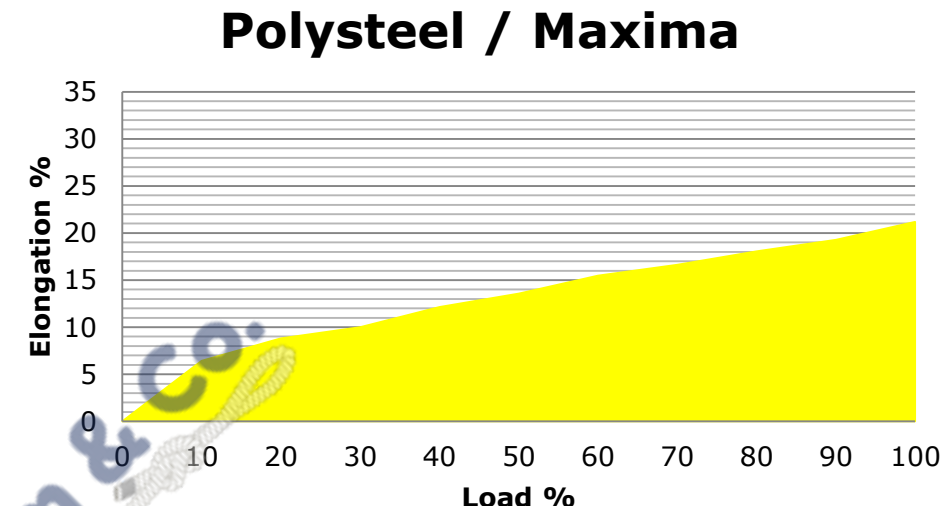
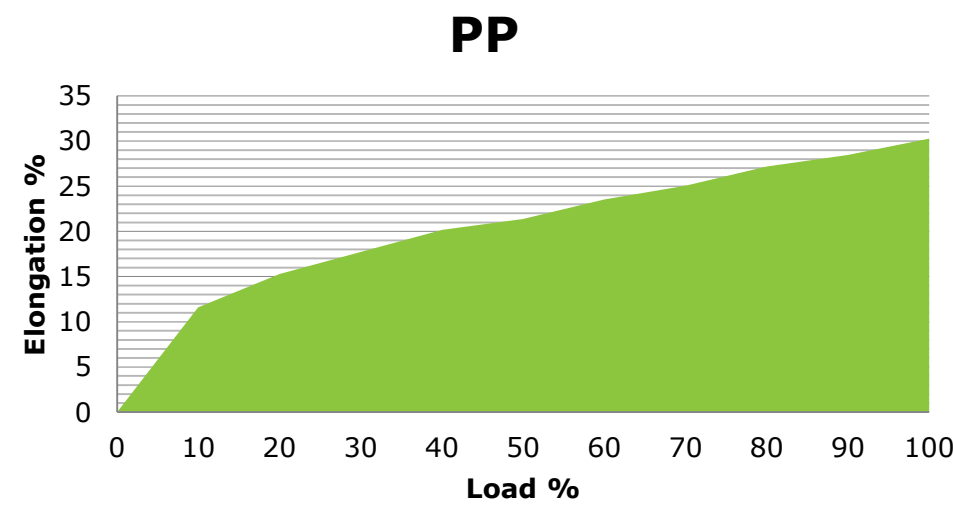


PP / Maxima



X2

3. LOW SNAPBACK – HOW ?



Energy Release Ratio

High Area under L-E Curve



High Energy Release Ratio



Unsafe Mooring Operation

X2 Range of Ropes are designed to give Low Area Under L-E Curve

X₂ ULTRA ROPES

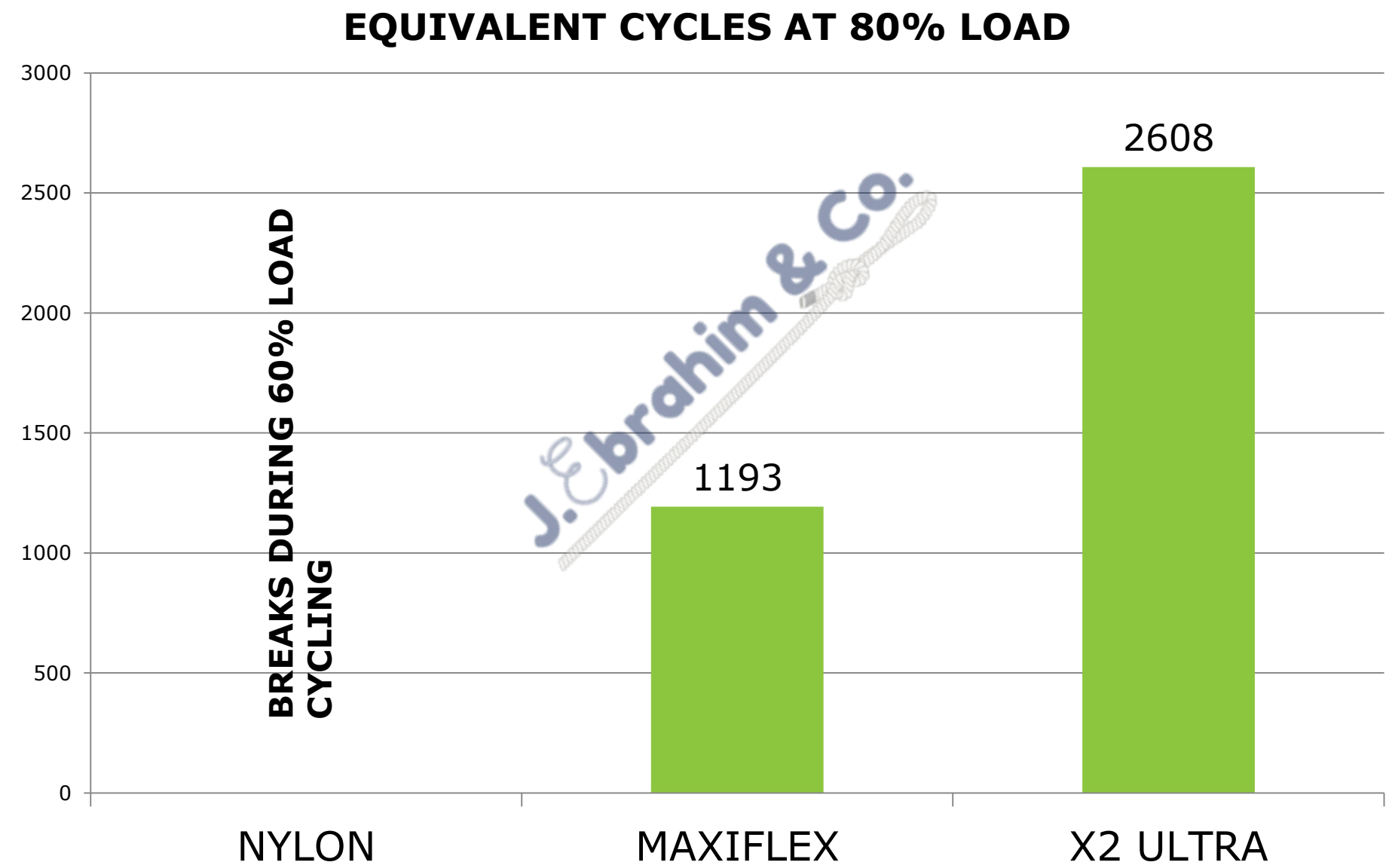


X2 ULTRA ROPES FOR TOWING



- Specially designed for towing and bollard pulls
- **TCLL value 82.46 vs 80.66**
- Does not absorb or retain moisture
- Retains strength in wet condition
- **Less tug joining time**
- **Easier to handle**

TCLL – DETAILS (THOUSAND CYCLIC LOAD LEVEL)



Better Ideas in Action

J. Ebrahim & Co.

Thank You

INDIA • USA • UK • CANADA • AUSTRALIA • CHILE • NORWAY

www.garwarefibres.com





GARWARE
TECHNICAL FIBRES



GARSAFE PRO

GARSAFE Neo

Lifting made safer...!



About Us

Garware Technical Fibres Ltd. (formerly Garware-Wall Ropes Ltd.) is one of India's leading players in the technical textile industry. Established in 1976, the company today has a multigeography footprint & has a presence in various technical textiles industries.

The company is known for providing world class innovative solutions for applications in the Safety, Sport, Agriculture, Fishing & many other types of technical textile industries.

Garware Technical Fibres at a Glance

- Pioneers of synthetic cordage in India
- Global presence with customers spread across 75 countries
- ISO 14001-2015 and 9001-2015 certifications by BVC, UK
- R&D unit recognized by the Department of Science & Technology, Government of India
- Carries ICRA's 'AA-' rating indicating strong financial stability
- Awarded 'Star Export House' status for many years
- Received the largest sports goods and sports nets exporter award from the Sports Goods
- Export Promotion Council, sponsored by the Ministry of Commerce, Govt. of India
- A dividend paying public limited company since inception.
Listed on the Bombay Stock Exchange and the National Stock Exchange of India



**COMPANY
ESTABLISHED IN 1976.**



**ISO 14001 - 2015 & 9001 - 2015
CERTIFICATIONS BY BVC, UK**

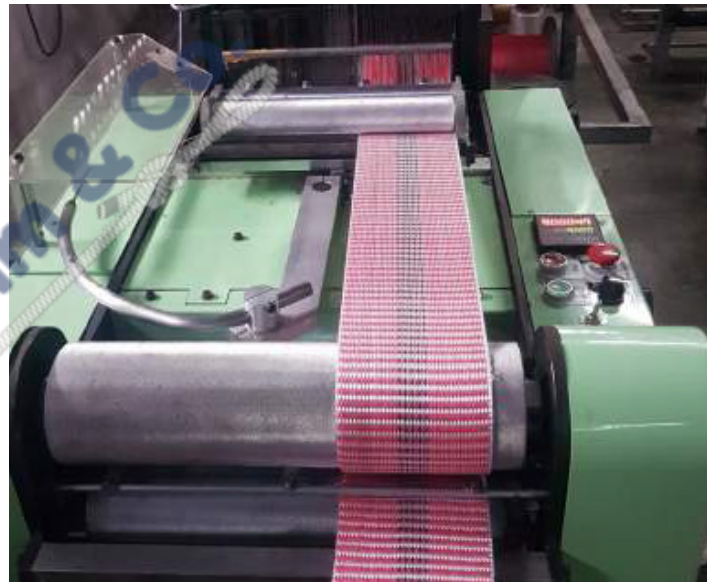


**GLOBAL PRESENCE WITH
CUSTOMERS SPREAD
ACROSS 75 COUNTRIES**



**“GREEN
MANUFACTURING
PRACTICE”**

EXCELLENT MANUFACTURING FACILITY



TESTING



Garware Technical Fibres Ltd.

- Garsafe Pro slings are CE marked (Process)
- Comes with 100% Guaranteed Breaking strength
- 3rd party (Lloyd's certificate available on demand at extra cost)
- Comes with Form 11 / Form 5
- Do's and Don'ts for user safety and proper maintenance

[illegible]



QVC CERT
REGISTERED WITH THE WORLD
 2-6, Civil Lines, Tamil Business Center, Near Old Seelam Court,
 Ambala City - 150009, Haryana, India

CERTIFICATE OF COMPLIANCE

No. QVC/CoC/MD/2019-20/114

Manufacturer:
 GARWARE TECHNICAL FIBRES LIMITED
 Plot No. 11, Block D-1, MID-C, CHENNAI, PIN-1, 431005,
 MANAGERHATTA, INDIA

Product:
 WEAVING SLIVER MACHINE WINDING LOAD UNIT (M/T)
 EN ISO 12550-2:2005

Technical File Documentation (TFC) (U/D/I)

Based on successful review of technical construction file documentation of the above-mentioned product(s), QVC hereby certifies conformity of the above mentioned product with the requirements of directive 2006/42/EC of the European Parliament and of the Council of 13th May 2006 of Machinery.

This certificate has been issued under the following conditions:

- It applies only to the above referenced model(s) of the product.
- The manufacturer shall assure that all products of the respective models conform to the certificate.
- The manufacturer shall provide self declaration of the manufacturing conditions, relevant harmonized standards or approved equivalent or any other, and shall take the steps of disposition of the defect.
- The product liability rests with the manufacturer or his representative in accordance with applicable Directive and / or national order / ruling of the relevant EU legislation requirement.

The manufacturer shall take care to each device of the above referenced models, the CE marking according to this example:





Printed on: 25/12/2019
 Valid Until: 25/12/2022

Managing Director

The certificate number, the product ID, the product name, the manufacturer name and the document number shall be marked clearly on the certificate. Also, the certificate shall be signed by the manufacturer within one month from the date of issue. Periodical inspection of the certificate shall be carried out by the QVC. In case of any change in the manufacturing conditions, the manufacturer shall inform the QVC.

DIRECTORATE OF INDUSTRIAL SAFETY AND HEALTH-2023

Form 11

See Rule 62 & 64

Test Certificate No.

Prescribed INITIAL & PERIODICAL TEST report of examination of the Lifting Machine, Chains, Ropes, Lifting Tackles, Lifts & Hoists & Polyester Slings. The undersigned certifies on behalf of the company, that below particulars are correct and that the described Machinery / Equipment / Tackle or Complete gear are according to the regulations of the IS (2004) 3002, IS 91 3407-1 : 2000, IS 91 12155-2:2002 satisfactorily. The examination and the test was carried out in my presence.

Designing Manufacturer's Mark	DESCRIPTION, DIMENSION AND MATERIAL (AS REQUIRED)					DATE OF TEST	TEST LOAD APPLIED	SAFE WORKING LOAD	SPEAK (STRENGTH)
	PATTERN	LENGTH	COLOR	MATERIAL OF END FITTINGS					
(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)	(10)

(12) Name of the Manufacturer / Supplier :

(13) Address of the Manufacturer / Supplier :

(14) Name & Address of the Firm:
Making the Test and Examination

GAURAV TECHNICAL FIBRIS LTD.
(ARJUN 9803 2015 CERTIFIED COMPANY)

PLOT NO. 11, BLOCK D-1, MIDC, CHINCHWAD,
PUNE 411 019

HIGH TECH CONSULTANCY
At Ring Office No. 311, 3rd Floor, at Gensh
Village, Aurang
Pune-413231

The above material is tested on PROOF Load
and Tensile OR
BRAND - GARDUSE PRO

I, P. N. K. GUJARM Certify that on _____ I thoroughly examined the above mentioned Lifting Machine, Chains/Ropes/Lifting Tackles, Lifts & Hoists & Polyester Slings that the above is correct report of the result.

Signatures: _____

Qualification: B. G. Jadhav, MHA, P.E. Certified
(Engineer, Competent Person)

C.A.S. No. _____

Designated / Authority Number of the Competent Person

Role: _____

Counter Signature: _____

DO'S & DON'TS FOR SAFE USE OF LIFTING SLING

1. Use only identified slings.
2. Never use a cut or damaged sling.
3. Never make knots in a sling.
4. Never drag a sling from underneath a load that is resting on it.
5. Never use a sling with a load with unprotected sharp edges.
6. Always ensure that lifting hooks or devices have smooth edges that will not damage the eyes of the slings.
7. If slings are to be used in chemically abnormal atmosphere or in constant high temperature then seek confirmation or advice before use.
8. Do not store slings under ultraviolet lights OR direct sunlight OR near direct heat.
9. Always observe the certified capacity of a sling.
10. Always inspect a sling before use.
11. When inspecting slings examine the full length for chafe/cuts/seam damage.
12. Do not use directly on abrasive surfaces. Use protective sleeves.
13. Any slings with cuts at the edge or damaged at stitched seams must be taken out of service immediately.
14. Do not pull the Sling from underload when the load is resting on it.
15. Do not stand under and stand clear of the suspended load.
16. Do not put any part of the human body between the Sling & the Load or between the sling & the hooks.
17. Slings should be used between the temperature -40°C to 100°C.
18. Do not use the sling unless a proper training is provided for handling, usage & maintenance.

GARWARE TECHNICAL FIBRES LTD.
(Formerly Garware-Wall Ropes Ltd.)
Registered Office: Plot No. 11, Block D-1, M.I.D.C., Chinchwad, Pune - 411 019. **T** + 91 20 30780000/0306
E pune_admin@garwarefibres.com www.garwarefibres.com **CIN** : 25209MH1976PLC018939

100% Guaranteed B.S. Certificate

This is to certify that the Webbing Sling manufactured by GTFL adheres to Breaking Strength requirement as per the defined Safety Factor of the Sling.

The slings provide **100% Guaranteed Breaking Strength** with respect to SWL & safety factor of the subjected sling.

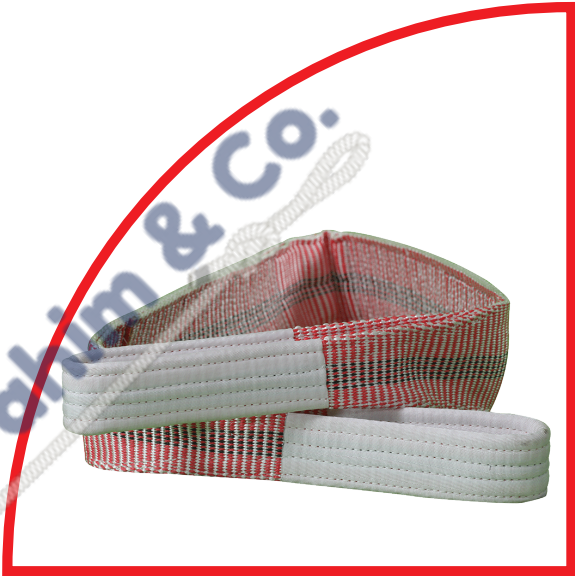
for GARWARE TECHNICAL FIBRES LTD.

INCHARGE - QUALITY ASSURANCE

Signature
Suresh S.G.

The image is a certificate from Garware Technical Fibres Ltd. (Formerly Garware-Wall Ropes Ltd.). It certifies that the Webbing Sling manufactured by GTFL adheres to the Breaking Strength requirement as per the defined Safety Factor of the Sling. The certificate is signed by Suresh S.G., Incharge - Quality Assurance. The certificate is framed by a decorative border and includes a large watermark in the background that reads '100% GUARANTEED BREAKING STRENGTH'.

OUR SLINGS



ADVANTAGES OF GARSAFE PRO LIFTING SLINGS

 **Guaranteed
breaking strength**

 **Better abrasion
resistance**

 **Better cut
resistance**

 **Better
gripping**



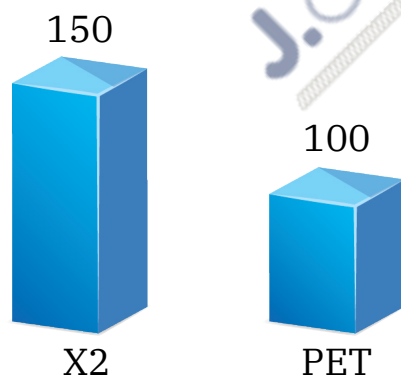
GARSAFE PRO LIFTING SLINGS

SWL in MT	Width (mm)	Minimum Breaking Strength kgs	Color code
1	25	5000	Violet
2	50	10000	Green
3	75	15000	Yellow
4	100	20000	Grey
5	125	25000	Red
6	150	30000	Brown
8	200	40000	Blue
10	250	50000	Orange
12	300	60000	Orange
16	200	80000	Blue
20	250	100000	Orange



Cut / Abrasion Resistance

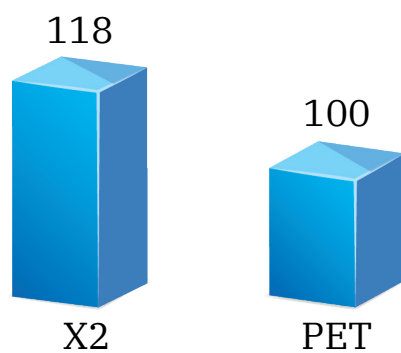
■ Cut resistance



Garsafe slings
provide 50% more cut
/ abrasion resistance

Coefficient of Friction

■ Coefficient of friction



Garsafe slings
provide 18% more
coefficient of friction





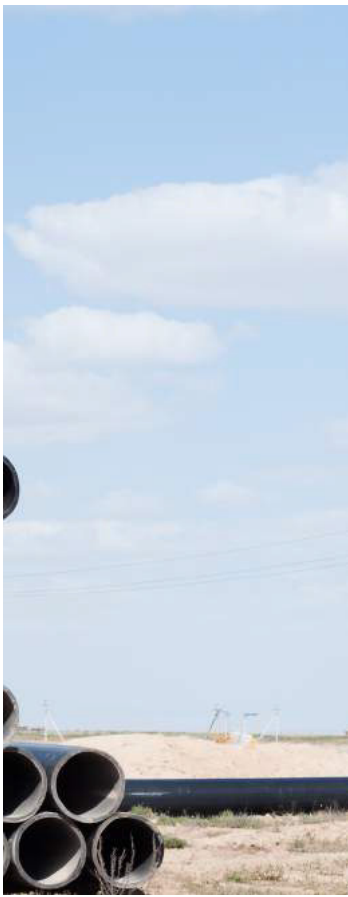
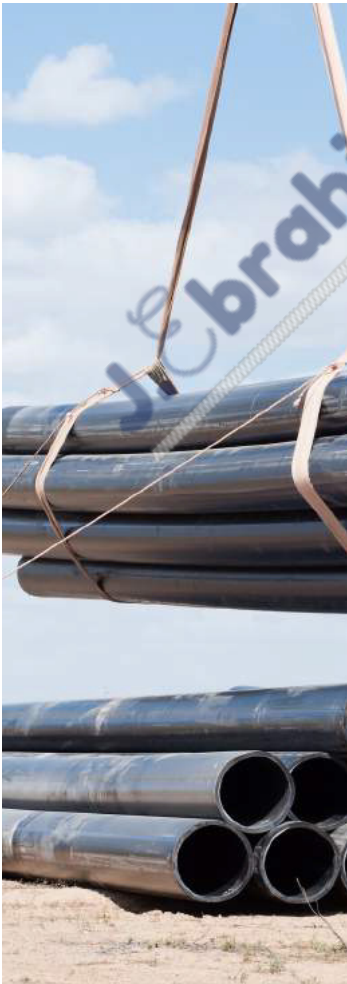
Garsafe Neo Lifting Slings

- For SWL from 6 MT, GTFL offers value added product using our fibre technology to give better abrasion resistance and high coefficient of friction
- This product with above unique features is being branded as Garsafe lifting slings & Team GTFL is in process of integrating the above mentioned unique product features into the higher size SWL which is upwards 6 MT
- Currently upwards 6 MT SWL GTFL would be offering, conventional Polyester slings which shall be branded as Garware neo, so as to offer full range of products which is the market requirement
- As a commitment to quality , GTFL would be offering Guaranteed Breaking Strength as per the defined safety factor in Garware neo



GARSAFE NEO LIFTING SLINGS

SWL in MT	Width (mm)	Minimum Breaking Strength kgs	Color code
5 TON	125	25000	Red
6 TON	150	30000	Brown
8 TON	200	40000	Blue
10 TON	250	50000	Orange
12 TON	300	60000	Orange
16 TON	200	80000	Blue
20 TON	250	100000	Orange



GARSAFE PRO

GARSAFE Neo



Head Office

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Toll free (India): 1800 3000 5162 | Email: sales@garwarefibres.com | Website: www.garwarefibres.com

Our Regional Office

North Region

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(Formerly Garware-Wall Ropes Ltd.)
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T +91 11 45659005

South Region

Garware Technical Fibres Ltd.
(Formerly Garware-Wall Ropes Ltd.)
No 442 Parsan Manere Building,
Wing A, 7th floor, Mount Road,
Chennai - 600002, Anna salai.
T +04428241053

East Region

Garware Technical Fibres Ltd.
(Formerly Garware – Wall Ropes Ltd.)
“Chandrakunj”, 2H, No.3, Pretoria Steet,
2nd Floor, Kolkata 700071, India.

West Region

Garware Technical Fibres Ltd.
(Formerly Garware-Wall Ropes Ltd.)
39 S. K. Hafizuddin Marg, Sankli Street,
Byculla (West) Mumbai - 4000 08.

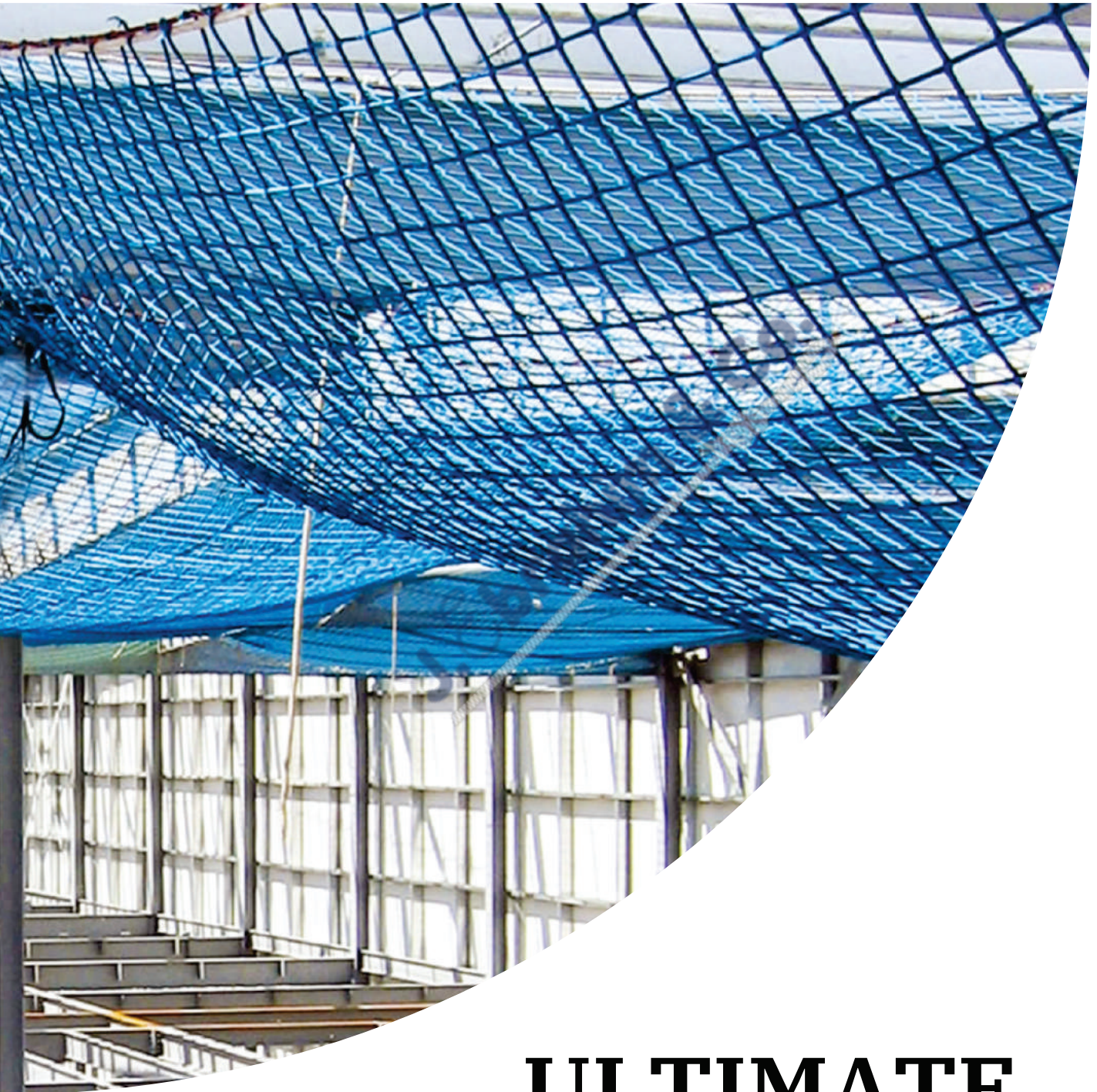




GARWARE
TECHNICAL FIBRES



GarSafe
Safety Net



**ULTIMATE
PROTECTION
FOR PERFECT SAFETY**

GARSAFE SAFETY NET

gives

Ultimate Protection to your Personnel & Property

Features	Advantages	Benefits
Machine made & heat set Safety nets	Better knot & Dimensional stability & prevents skewing	Enhances safety
Uniform mesh size	Provides firmness & uniform drape to the nets	Resist high impact & increases job site safety
UV stabilized nets	Enhances the life of the net	Saves cost on multiple purchases
Firm Fabrication leading to proper secured splicing or lashing at corners	Prevents the ripping of border rope from the body of the net	Increases overall strength
Tracer yarn for genuine traceability	Easier identification of genuine GTFL safety nets	Avoid Duplicity and ensures best quality safety nets



Major Varieties:

- Polo Nets for high rise construction work sites
- Safety nets with containment nets for debris arrest
- Nylon knotted Safety Nets for various applications
- Ski slope protection net & Fence / Barrier netting

Complying with International Standards

Safety Nets tested as per the European Standards (EN 1263-1:2002)

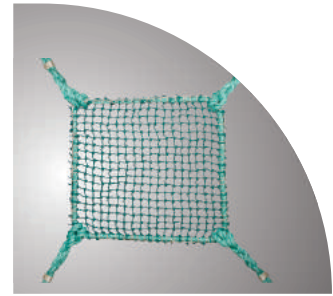
- Knotless Safety Nets for construction work sites
- Packaging as per standards
- Each net will have a border rope & tie ropes of 12 mm, having strength of min. 3000 kgs



TYPE OF NETS

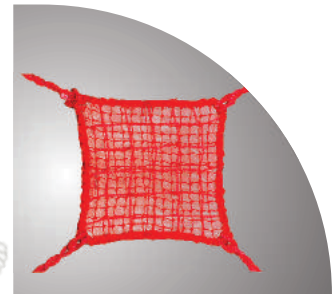
Sample 1: 2.5mm Braided Safety Net

Product Description	Dimension	Color
2.5mm Braided Safety Net, 25mm SQ with or without knotless containment net	10 X 3mtrs	L. Green
	10 X 5mtrs	L. Green
2.5mm Braided Safety Net, 30mm SQ, without containment net	10 X 3mtrs	L. Green
	10 X 5mtrs	L. Green



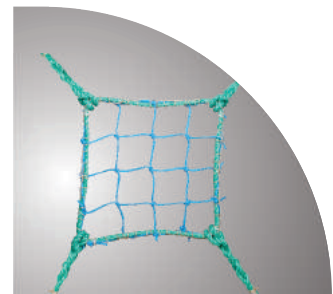
Sample 2: Polo net (triple layer net)

Product Description	Dimension	Color
Polo Net, PE knotless, 5mm PPMF Knotless 70 mm sq, 2.5mm 30mm sq	6 X 4.6mtrs	Red
	4.6 X 4.2mtrs	Red



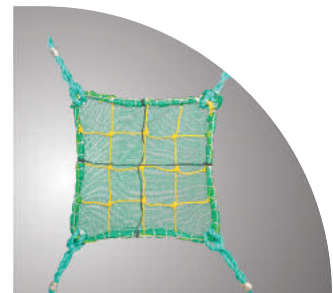
Sample 3: 5mm Braided Safety Net

Product Description	Dimension	Color
5mm Braided, 100 mm SQ with twisted containment net	10 X 3mtrs	L.Green



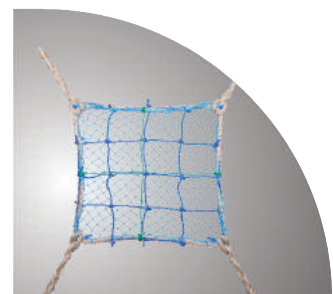
Sample 4: 4 MM PP Safety Net (Yellow)

Product Description	Dimension	Color
4 MM PP with monofilament shade net or containment net	10 X 3mtrs	Yellow
	10 X 5mtrs	Yellow



Sample 5: 4 MM PP Safety Net (Blue)

Product Description	Dimension	Color
4 MM PP with monofilament shade net or containment net (Twisted or Knotless)	10 X 5mtrs	Blue
	10 X 3mtrs	Blue





In-house Safety Net Testing Facility

Safety Net Dynamic Testing :

Passed dynamic test of 100 kg metal ball drop from height of 7 mtrs height

Safety Net Static Testing :

Energy absorption testing as per type
A & B

BIRD PROTECTION NETS

Application & Advantages

Category	Twine Size	Mesh Size	Dim Width	Dim Width	Colour
Anti Bird net	1.0mm 280D/15PLY	25 MM SQ	30 mtr	10 mtr	Black / M White
Anti Bird net	1.0mm 280D/15PLY	19 MM SQ	30 mtr	10 mtr	Black / M White
Anti Bird net	1.0mm 280D/15PLY	50 MM SQ	30 mtr	10 mtr	Black / M White



Domestic Application



Industrial Application

Application Overview - Bird Protection Net

Category	Applications	Pain Areas
Industrial	Airbase (Military / Domestic) / Factories / Monuments / Roof Tops /Warehouses/ Godowns etc	<ul style="list-style-type: none">• To Stop entry / Roosting / Breeding of all kind of Birds from Surroundings & Thus preventing diseases caused to Human Beings• Required to protect the aesthetic looks of the building by bird Fouling & Nesting debris• Keep the surroundings Clean , Hygienic & prevent noise pollution
Domestic	Buildings – Balcony / Windows / Window AC / Open Lobbies / Swimming Pools etc	<ul style="list-style-type: none">• 25 mm mesh for smaller birds like sparrow• 50 mm mesh for pigeon like birds

Advantages - Bird Protection Net

The Solution offered shall provide :

- ♦ High Durability since strong & Machine Knotted
- ♦ UV Stabilized & Weather proof
- ♦ Zero Maintenance
- ♦ Easy Installation
- ♦ High impact resistant
- ♦ Better knot stability and anti skewing
- ♦ Available in customised sizes
- ♦ Standard and Stable dimensional advantage due to in house fabrication
- ♦ Check the Tracer Yarn for genuine traceability



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Plot No 11, Block D1, M.I.D.C,
Chinchwad, Pune – 411019,
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Tel.: +91-20-27990301 | +91-20-27990306

Email: sales@garwarefibres.com

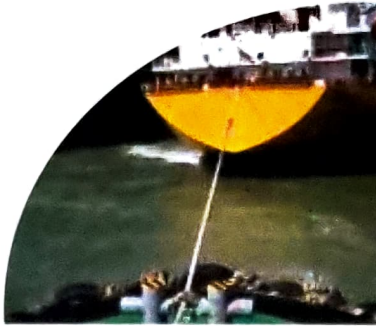
GARWARE
PLATEENA
MOORING & TOWING



GARWARE
TECHNICAL FIBRES



**Feather like rope
with the strength of steel**



Plateena

Manufactured by Dyneema® - "The World's Strongest Fibre" Yarn with a very high breaking strength to weight ratio. A heavy duty rope, it is the strongest in the category and is also available in a jacketed variety.

SPECIFICATIONS

12 Strand Rope			
CIRC (inch)	DIA (mm)	Mass per Coil kg (100 mtr.)	Breaking Strength (kgf)
0.50	4	1.7	2600
0.63	5	2.4	3000
0.75	6	2.7	4000
0.88	7	3.3	5000
1.00	8	3.9	6500
1.25	10	5.9	10000
1.50	12	9.3	14000
1.75	14	11.3	18500
2.00	16	15.0	21500
2.25	18	21.2	29500
2.50	20	23.1	38000
2.75	22	28.8	46000
3.00	24	34.5	54000
3.25	26	39.7	60000

8 & 12 Strand Rope			
CIRC (inch)	DIA (mm)	Mass per Coil kg (100 mtr.)	Breaking Strength (kgf)
3.5	28	42	65000
4	32	55	82500
4.5	36	70	103000
5	40	86	125200
5.5	44	104	149000
6	48	124	174500
6.5	52	145	202000
7	56	169	130000
7.5	60	194	259500
8	64	220	295400
9	72	279	368300
10	80	344	452400
11	88	417	541500
12	96	496	638400

Dyneema® is a registered trademark of Royal DSM N.V.

FEATURES

- ▶ High Strength & Low Weight
- ▶ High abrasion resistance
- ▶ Low elongation at break comparable to steel wire rope
- ▶ Floats on water
- ▶ Excellent chemical and UV resistant
- ▶ Anti-chaff gears available like woven socks, panama woven, protection sleeves available on demand

BENEFITS

- ▶ Higher strength to weight ratio
- ▶ Safer and easier to handle than steel wire ropes
- ▶ Greater durability than other synthetic ropes
- ▶ Low snap back
- ▶ Weight of Plateena rope is 1/7th to 1/8th of steel wire rope for same strength and diameter
- ▶ Very high TCLL value
- ▶ Does not damage ship equipment

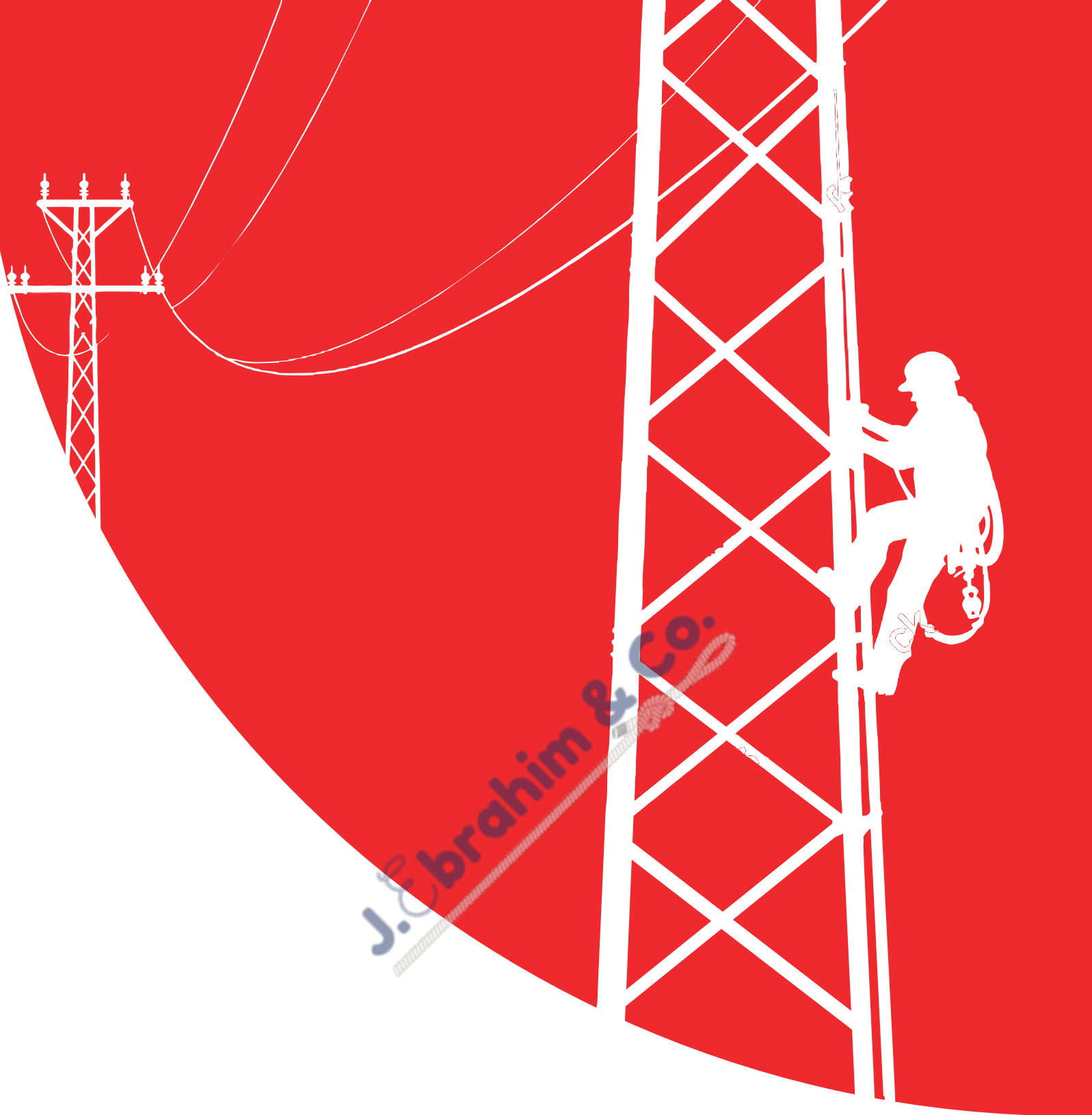
APPLICATIONS

- ▶ Mooring
- ▶ Towing

ALSO AVAILABLE FOR

- ▶ Pulling Transmission Line
- ▶ Slings for Industrial Application
- ▶ Sailing & Kite Surfing





SAFETY EQUIPMENT FOR SAFER ENVIRONMENT



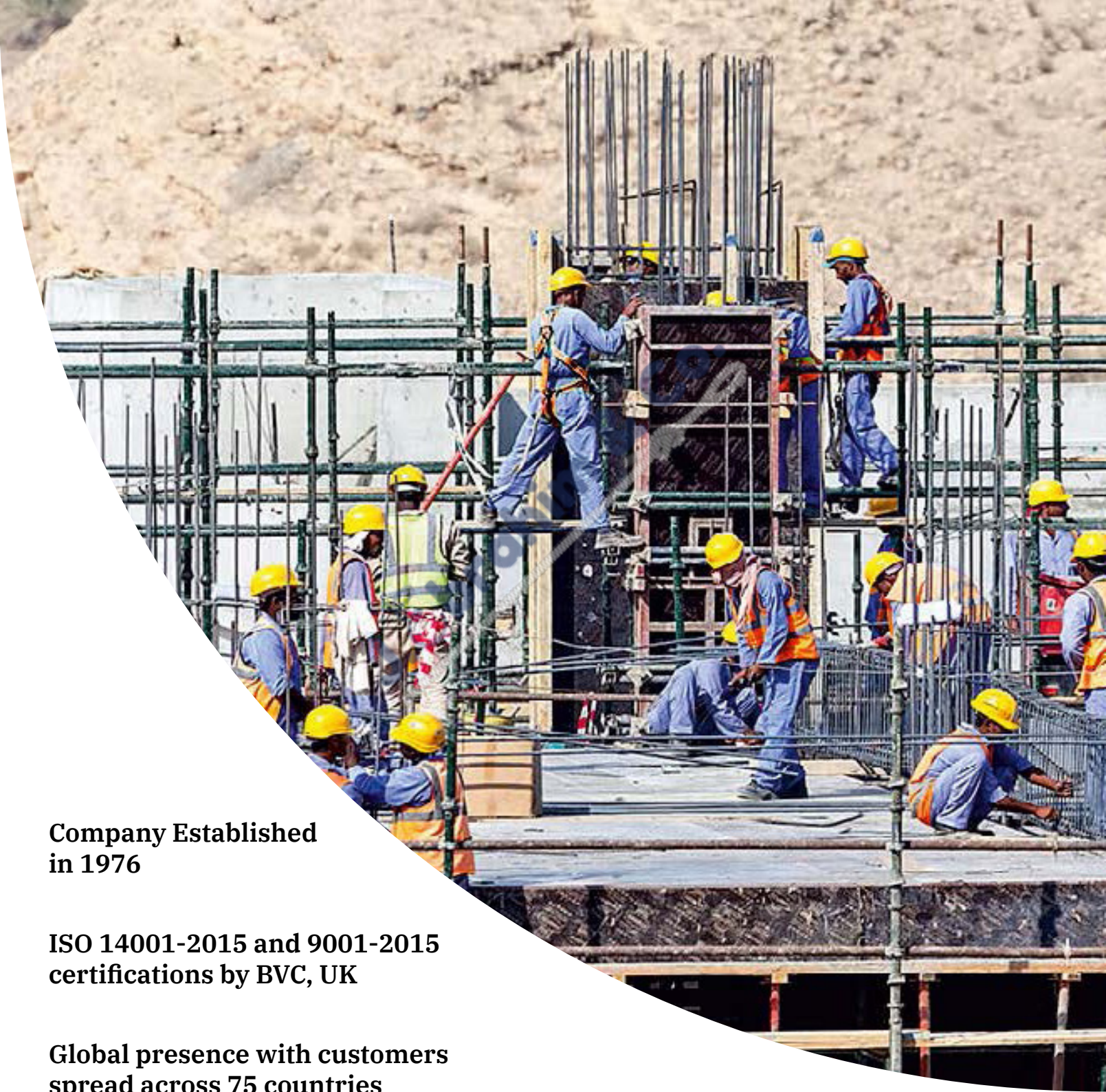
GARWARE
TECHNICAL FIBRES



Fall Protection System



Fall Protection System



**Company Established
in 1976**

**ISO 14001-2015 and 9001-2015
certifications by BVC, UK**

**Global presence with customers
spread across 75 countries**

Award

“Sport Goods Export Promotion Council”

Sponsored by the Ministry of Commerce, Govt, of India.



GARWARE
TECHNICAL FIBRES

ABOUT US

Garware Technical Fibres Ltd. (formerly Garware-Wall Ropes Ltd.) is one of India's leading players in the technical textile industry. Established in 1976, the company today has a multigeography footprint & has a presence in various technical textiles industries.

The company is known for providing world class innovative solutions for applications in the Safety, Sport, Agriculture, Fishing & many other types of technical textile industries.

Garware Technical Fibres at a Glance

- Pioneers of synthetic cordage in India
- Global presence with customers spread across 75 countries
- ISO 14001-2015 and 9001-2015 certifications by BVC, UK
- R&D unit recognized by the Department of Science & Technology, Government of India
- Carries ICRA's 'AA-' rating indicating strong financial stability
- Awarded 'Star Export House' status for many years
- Received the largest sports goods and sports nets exporter award from the Sports Goods
- Export Promotion Council, sponsored by the Ministry of Commerce, Govt. of India
- A dividend paying public limited company since inception. Listed on the Bombay Stock Exchange and the National Stock Exchange of India





GARSAFE

Fall Protection System



**GTFL
MANUFACTURING
FACILITY**



GARWARE
TECHNICAL FIBRES

MANUFACTURING FACILITY

Pune factory is strategically located in close proximity to Mumbai & manufacturing facility at Wai is the largest unit in India and spread across 30 acres. We have a strong manufacturing set-up, equipped with the finest and latest technology-driven machinery. Our workforce is skilled, young, and dynamic. We are passionate leaders from the industry who are relentlessly outshining in achieving their goals.

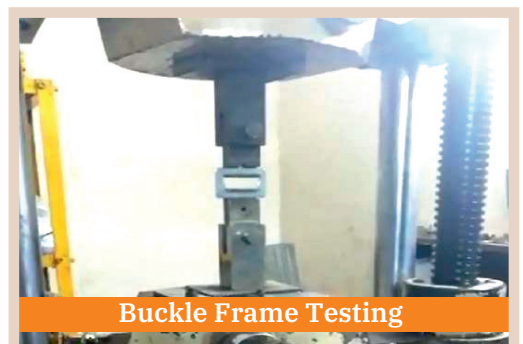
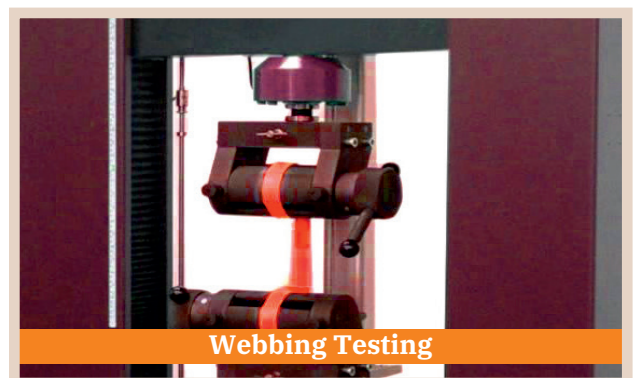
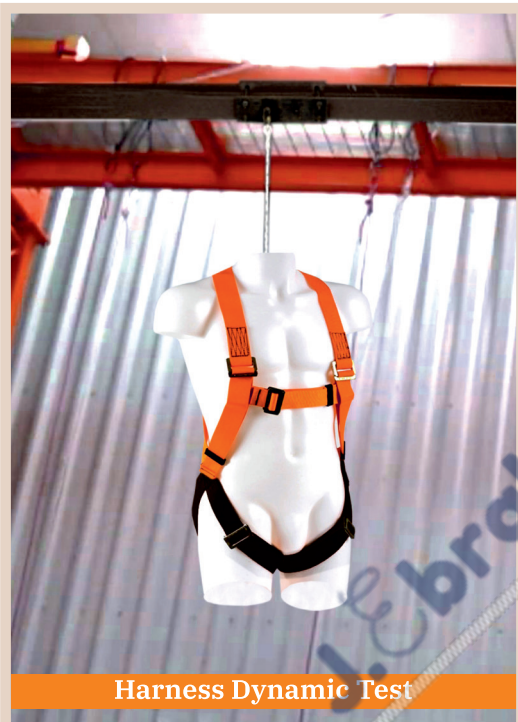




Fall Protection System

OUR TESTING FACILITY

A well established in-house testing Laboratory carries out tests for static, dynamic and corrosion testing. Each product it produces goes through rigorous examining before being used for the next step. Our laboratory is continuously engaged in R&D to improve the quality and performance of safety products.





GARWARE
TECHNICAL FIBRES

PRODUCT CERTIFICATIONS

Under this certification all processes and systems are stringently monitored to deliver quality product at each stage of manufacturing and service.

PRODUCT CERTIFICATES

Our Certificates have been issued by approved & certified Body SATRA Technology, UK, DEKRA Training and Certification gmbH & Bureau of Indian Standards.





Fall Protection System



GEN-22

GARSAFE Vest Harness are specially designed into the Fluorescent Orange Vest for higher visibility at night. 2 Chest attachment textile loops and a Dorsal attachment D-Ring for Fall Arrest. Along with all the adjust-ability features, this Vest Harness has Double Durable zipper for adjustable width to suit all sizes.

Webbing Width	44mm
Webbing Material	Polyester
Breaking Strength	23 KN
D-ring Position	Dorsal (Back)
Fall Indicator	Yes
Buckle	Alloy Steel with Zinc Plating
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: EN 361:2002

(Available in customized lanyard length with and without Energy Absorber)

GEN-51

Comfortable padding on Shoulder and Automatic Buckles on thigh-straps. Dorsal attachment D-Ring for Fall Arrest. Adjustable Chest-Strap and thigh-straps for easy adjustment. Ideally positioned sit-strap for extended comfort.

Webbing Width	44mm
Webbing Material	Polyester
Breaking Strength	23 KN
D-ring Position	Dorsal (Back)
Fall Indicator	Yes
Buckle	Alloy Steel with Zinc Plating
Automatic Buckle	Alloy Steel Powder Coated
Stitching Thread	Polyester
Size of Harness	Universal



Automatic Buckle

Conforms to: EN 361:2002

(Available in customized lanyard length with and without Energy Absorber)





GARWARE
TECHNICAL FIBRES

GEN-52_a

GARSAFE are Equipped with comfortable Harness and very versatile in its use. Oil, Water and Dirt Repellent Webbing provides excellent resistance from build up of Oil, Water and Dirt. One Dorsal & one Sternal D-ring for fall arrest, one Ventral D-ring for Rope Access Work & 2 Lateral D-ring for Work Positioning, adjustable Shoulder, Thigh strap & Waist Belt. Soft Padding on shoulder, waist and leg strap for extended comfort.

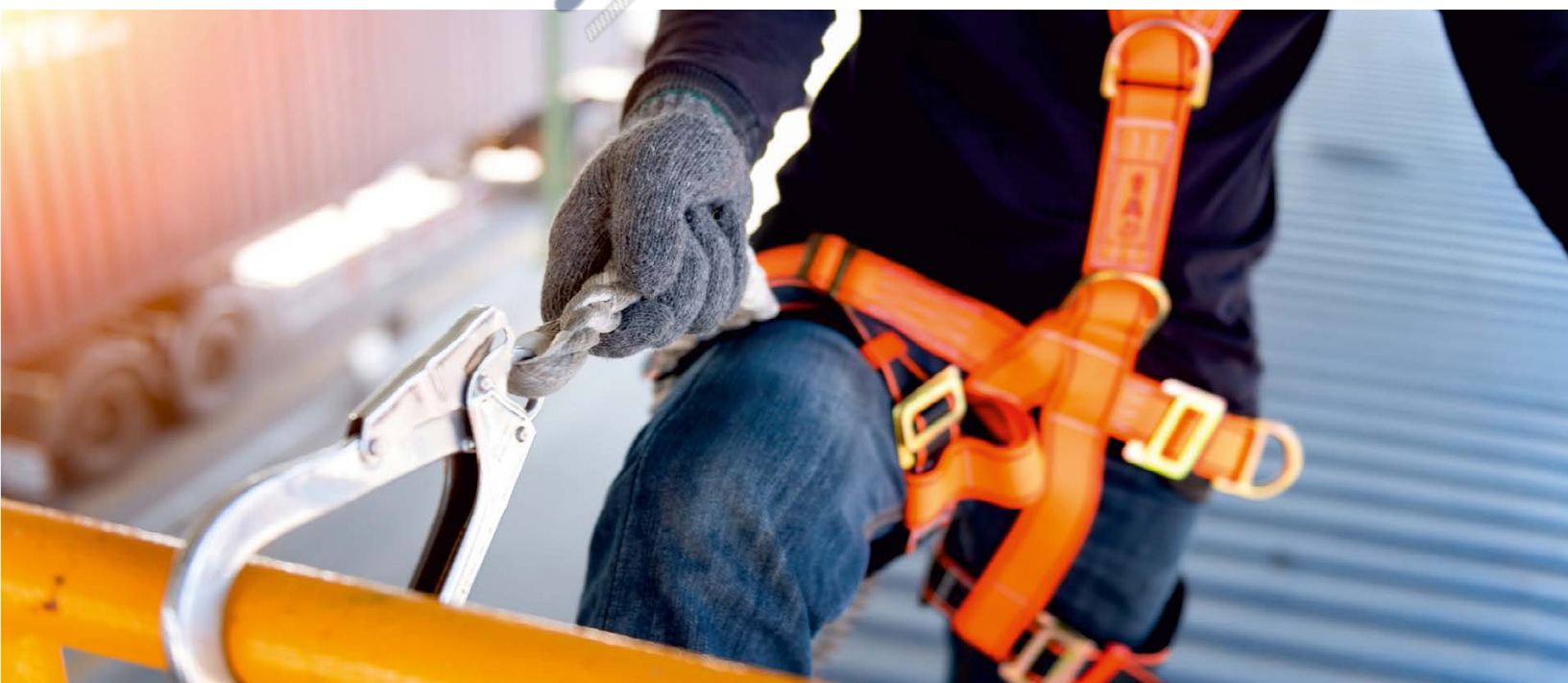


Webbing Width	44mm
Webbing Material	Polyester (Oil, Water & Dirt Repellent Webbing)
Breaking Strength	23 KN
D-ring Position	Dorsal (Back), Sternal (Front) Ventral (Front) & Lateral (Waist)
Fall Indicator	Yes
Buckle	Alloy Steel with Zinc Plating
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: EN 361:2002, EN 361:2018, EN 813:2008

(Available in customized lanyard length with and without Energy Absorber)





Fall Protection System



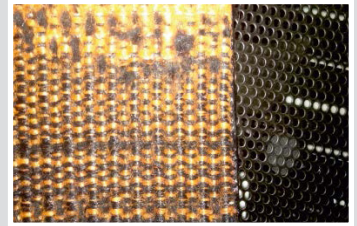
European Standards (EN Norms) Certified Product Range

FULL BODY HARNESS

A Full Body Harness is the ideal body wear that should be worn by a worker, when working at height, since it distributes the force of impact incurred in the event of a fall evenly on the thighs and torso region of the body.

GARSAFE Full Body Harnesses are manufactured to withstand the highest test of International safety standards and is CE certified as stated in the European norms. These harnesses are used in a wide range of applications like fall arrest, work positioning, tower and ladder climbing, suspension and rigging.

GARWARE manufactures a wide range of Full Body Harness, made of High Tenacity Polyester webbing. Since Polyester webbing has the least elongation properties the Harness does not stretch dangerously when subjected to a fall. The wearer hence does not risk slipping out of the Harness.



Provided with Abrasion
Indication Webbing
for higher safety
periodic checks.



Ventral
and Sternal
attachment
D-rings



Full Body
Harness
with Jacket



Comfortable
padding of
Shoulders

Automatic
Buckles





CE

GEN-01

A Dorsal attachment D-Ring for Fall Arrest. Adjustable Chest-Strap and thigh-Straps for easy adjustment. Ideally positioned sit-Strap for extended comfort.

Webbing Width	44mm
Webbing Material	Polyester
Breaking Strength	23 KN
D-ring Position	Dorsal (Back)
Fall Indicator	Yes
Buckle	Alloy Steel with Zinc Plating
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: EN 361:2002

(Available in customized lanyard length with and without Energy Absorber)

GEN-02

2 Chest attachment textile loops and a Dorsal attachment D-Ring for fall Arrest. Adjustable Shoulder, Chest and thigh-straps. ideally positioned sit-strap for extended comfort.

Webbing Width	44mm
Webbing Material	Polyester
Breaking Strength	23 KN
D-ring Position	Dorsal (Back)
Fall Indicator	Yes
Buckle	Alloy Steel with Zinc Plating
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: EN 361:2002

(Available in customized lanyard length with and without Energy Absorber)



CE





Fall Protection System



Bureau of Indian Standards (BIS Norms) Certified Product Range

Garware Technical Fibres Ltd. offers a comprehensive range of Full Body Harnesses to suit a vast range of applications and situations.

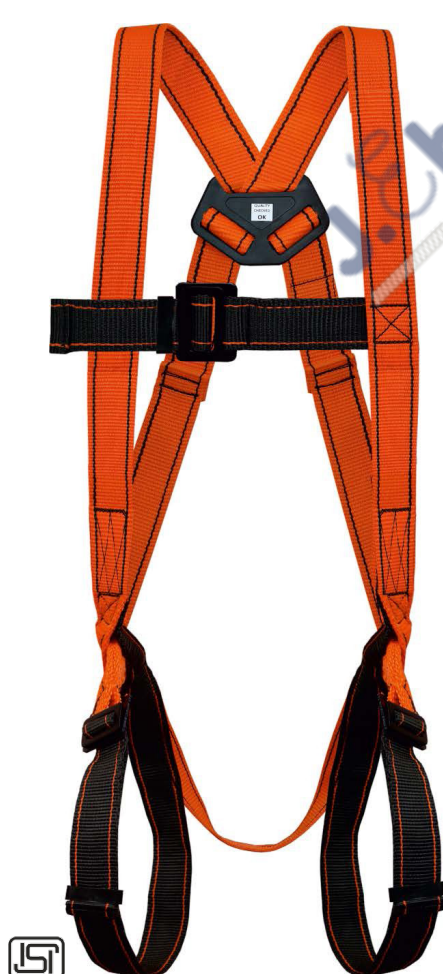
Genuine BIS Harness with **Flame Retardant Property** to ensure high quality Standard.

3MM Thick Webbing conforming to BIS Norm for high breaking strength.

100% conforming to BIS standards, which comes with all the features of Safety to fight the fatalities of such events.

Equipped with the finest ergonomics and technically sound features, our Full Body Harnesses are the best choice for comfortable and safe usage for work at height.

These harnesses are used in a wide range of applications like fall arrest, work positioning, tower and ladder climbing, suspension and rigging.



GIS-05 (CLASS A)

A Dorsal attachment D-Ring for Fall Arrest. Adjustable Chest-Strap and thigh-straps for easy adjustment. Ideally positioned sit-strap for extended comfort.

Webbing Width	44mm
Webbing Material	High Grade Industrial Polyolefin Group yarn
Breaking Strength	19.6 KN
D-ring Position	Dorsal (Back)
Fall Indicator	Yes
Buckle	Alloy Steel Powder Coated
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: IS 3521:1999

(Available in customized lanyard length with and without Energy Absorber)



GARWARE
TECHNICAL FIBRES

GIS-14 (CLASS L)

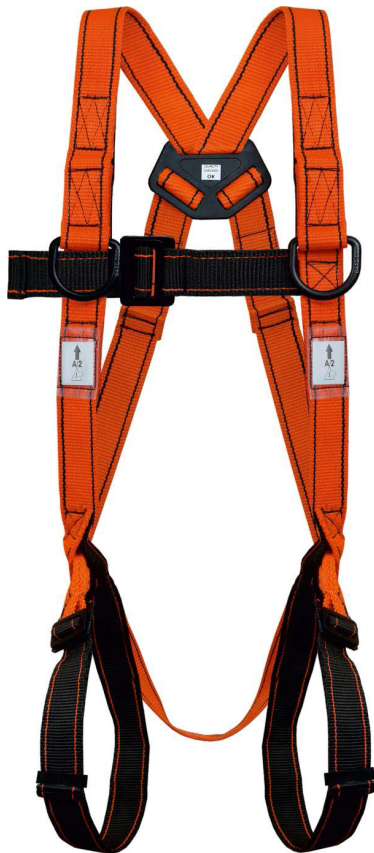
2 Chest attachment Powder Coated D-Ring for Ladder Climbing and a Dorsal attachment D-Ring for Fall Arrest. Adjustable Chest and thigh-straps. Ideally positioned sit-strap for extended comfort.

Webbing Width	44mm
Webbing Material	High Grade Industrial Polyolefin Group yarn
Breaking Strength	19.6 KN
D-ring Position	Dorsal (Back) & Sternal (Front)
Fall Indicator	Yes
Buckle	Alloy Steel Powder Coated
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: EN 361:2002

(Available in customized lanyard length with and without Energy Absorber)



GIS-24 (CLASS P)

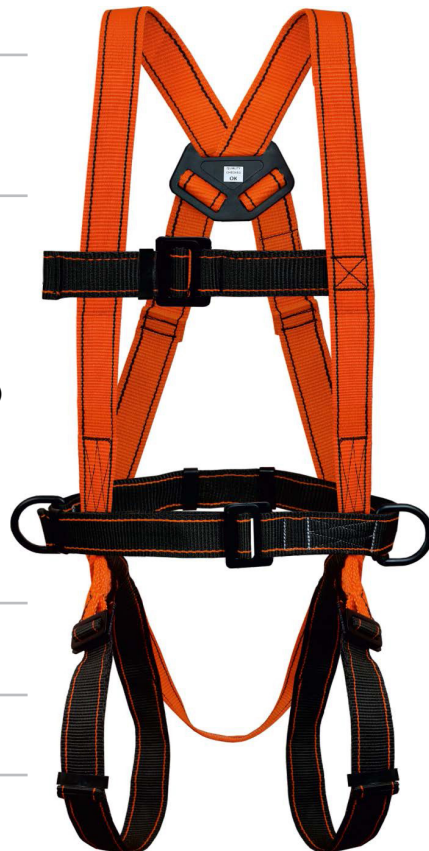
A Dorsal D-Ring for Fall Arrest. 2 Lateral D-Rings at the Waist level for Work Positioning. Adjustable thighstraps. Ideally positioned sit-trap for extended comfort.

Webbing Width	44mm
Webbing Material	High Grade Industrial Polyolefin Group yarn
Breaking Strength	19.6 KN
D-ring Position	Dorsal (Back) & Sternal (Front)
Fall Indicator	Yes
Buckle	Alloy Steel Powder Coated
Stitching Thread	Polyester
Size of Harness	Universal



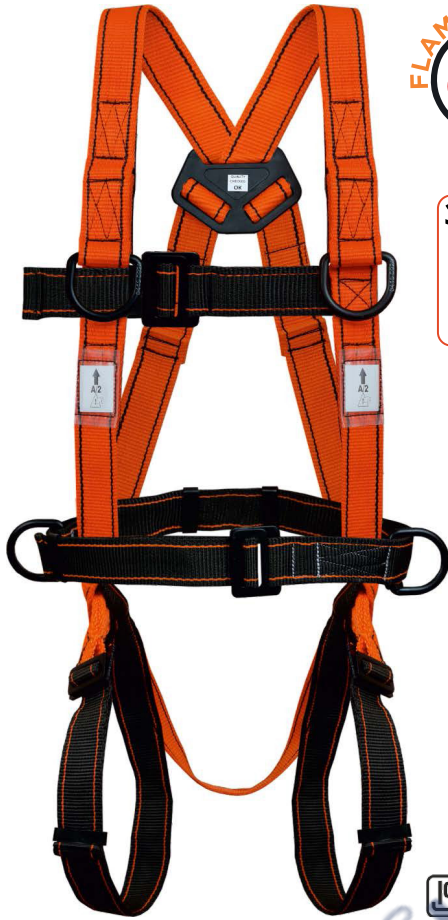
Conforms to: IS 3521:1999

(Available in customized lanyard length with and without Energy Absorber)





Fall Protection System



GIS-26 (CLASS L&P)

2 Chest attachment Powder Coated D-Ring for Ladder Climbing and a Dorsal attachments D-Ring for fall Arrest. 2 Lateral D-rings at the Waist level for Work positioning. Adjustable thigh-straps. Ideally positioned sit-strap for extended comfort.

Webbing Width	44mm
Webbing Material	High Grade Industrial Polyolefin Group yarn
Breaking Strength	19.6 KN
D-ring Position	Dorsal (Back) & Sternal (Front) Lateral (Waist)
Fall Indicator	Yes
Buckle	Alloy Steel Powder Coated
Stitching Thread	Polyester
Size of Harness	Universal



Conforms to: IS 3521:1999

(Available in customized lanyard length with and without Energy Absorber)



Also available with
Comfort Waist Pad
on request.





GARWARE
TECHNICAL FIBRES

LANYARDS

GARSAFE Forked Lanyard allows the user easy movability at height staying tied-off at all times for 100% fall protection. The Forked Lanyards are offered with Shock Absorber as per the needs and requirements of the user. Forked Lanyards are made up of Twisted Ropes. Conforms to EN 355:2002.

Without Energy Absorbing Forked Lanyard are suited only for purpose of restraint, and should not be used for Fall Protection since they do not have any Energy Absorber. Conforms to EN 354:2010.

Work Positioning Lanyards can be connected to the Lateral D-Rings on the Work Positioning Belts or Combination Harnesses and easily adjusted for their lengths to suit the application.



The lanyard comes with Garware's patented Break Indication technology to identify damages places in the rope which helps in avoiding hazards.



Forked Lanyard with Energy Absorber

GEN-EA-01

- Made of polyester Rope (Dia 12mm).
- Length of 1.5m, 1.8m, 2.0m.
- Equipped with 1 karabiner, Energy Absorber & 2 Steel Scaffold Hooks.
- Conforms to EN 355:2002



Forked Restraint Lanyard

GEN-LY-01

- Made of polyester Rope (Dia 12mm).
- Length of 1.5m, 1.8m, 2.0m.
- Equipped with 2 Steel Scaffold Hooks
- Conforms to EN 354:2010



Work Positioning Lanyard with Grip Adjuster

GEN-WPL-01

- Made up of Nylon Rope of dia 14mm.
- Has a convenient Rope-grab adjuster for easy length adjustment & Work Positioning.
- Maximum length of 2.0 mtr.
- Easy to connect Steel Karabiners at both the free ends for attachment.
- Conforms to EN 358:2018.