

KABELTRAX

A division of TSUBAKI KABELSCHLEPP



CABLE MANAGEMENT SYSTEMS

AUTOMOTIVE & HIGH VOLUME SOLUTIONS

KABELTRAX – our mission



KABELTRAX is the division of the TSUBAKI KABELSCHLEPP GmbH for automotive and high-volume applications. As a specialist for high-end cable routing in dynamic applications we are aware of the high demands of our customers and ensure their implementation.

Being one of the major manufacturers for cable routing and management systems, we are able to manufacture particularly high volume quantities and maintain quality (zero-fault strategy) economically and reliably with our highly automated manufacturing processes and our permanent 100% quality control.

Our customers are always our first priority. KABELTRAX is produced on a global level so our customer's needs can be met quickly. This however, does not hinder quality. Our KABELTRAX is made with the same quality that people have come to expect from KabelSchlepp products.

KABELTRAX products should be used wherever cables need to be guided and protected:

- Sliding doors
- Retractable roofs
- Seat positioning systems
- Interior
- Furniture industry
- Swinging doors
- Sliding roofs
- Steering columns
- Automatic service machines
- And many more

For almost two decades KABELTRAX has produced and delivered systems free of defects and in time to satisfied customers. For your project we would be glad to offer you the right product from our standard product range and match it individually to your needs. We also develop customized solutions to meet your requirements. Please contact us.

Our total quality promise

The core of our Total Quality Promise (TQP) ties customer requirements, product design and production processes together. We are continuously evaluating the form, fit, function and ultimate performance of our products by utilizing the latest CAD systems and product simulation methods, whilst constantly optimizing our automated production processes to ensure repeatable deliverable total quality, as well as, heightened customer confidence and value. At KABELTRAX, the difference is: a record 100% on-time deliveries, real-time support, and quality product received everytime.



The KABELTRAX difference



Why choose KABELTRAX?

Our expertise, service, flexibility, quality and environmental responsibility deliver the value customers demand. These principles are key to our culture and built into every product we sell.

Delivering on these principles everyday gives our customers the confidence necessary to make us a world leader!

“It is our principal objective to meet the requirements and expectations of our customers at all times.”



4 times in a row:
SUMITOMO
Electric Wiring Systems
Quality Excellence Award

The TSUBAKI group: Solutions from one source – from a global partner

The TSUBAKI Group is comprised of 40 manufacturing sites and 56 subsidiaries and offices in more than 70 countries worldwide.

Tsubaki manufactures and supplies a comprehensive range of products from industrial drive & attachment chains, conveyor chains, sprockets, safety devices, shaft couplings & cam clutches to chain drive systems for the automotive industry. Within the TSUBAKI Group, TSUBAKI KABELSCHLEPP is responsible for worldwide product areas for guideway protection and conveyor systems, as well as cable carrier systems and cables.

The know-how of our product specialists in conjunction with the worldwide sales and service organization provide customers with qualified solutions for many different industries and applications. From consulting, planning and installation to on-site service – wherever you need us.

Automotive cable management systems

Design



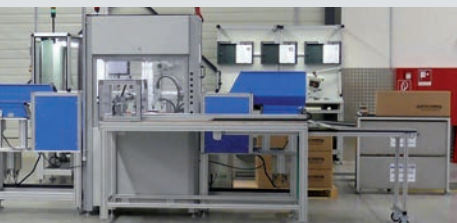
Testing



Production



Assembly



- Steering columns
- Displays
- Dashboards

- Displays

- Seat positioning systems
- Seat height adjustment
- Heating and ventilation
- Seat power and electronics

- Sliding doors
- Suspension doors
- Swinging doors

■ Multifunction tables



- Rear hatches and doors
- Retractable service ramps



Door systems



Seating systems



Retractable roofs



Interior accessories



Cable management systems for automotive and high volume applications

Wire harnesses in motion

KABELTRAX dynamic wire management solutions offer engineers proven and globally competitive solutions to their most complex moving wire harness challenges.

Our system assemblies substantially increase the operating efficiency and longevity of wires, by reducing circuit failures while bringing uninterrupted power and control to moving mechanisms.

KABELTRAX innovative wire management solutions are perfectly suited to each of our customer's unique requirements.

Our impressive record of innovative solutions to manage wire harnesses moving in single or multi-axis motion spans the world. With millions of automotive systems in operation across the globe, we are a world leader.



Sliding doors



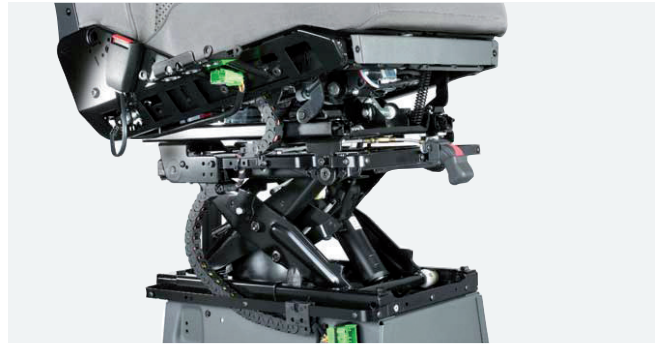
Swing doors



Rear doors



Adjustable seats



Product solutions

KABELTRAX designed and built-to-suit products offer engineers proven and globally competitive solutions to their most complex moving wire harness challenges.



Rocker solution: Wire track under running board in vertical or horizontal position.



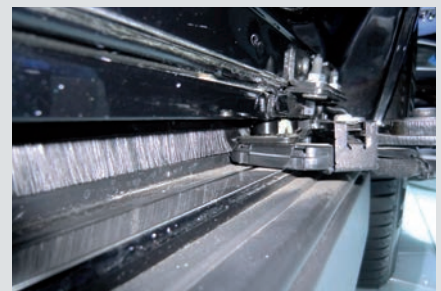
Tray in door solution



Outboard solution between door and body



Middlerail solution



Cassette solution

Wire routing and management solutions around the entire vehicle

Application examples

We design a specific solution to suit your needs where standard solutions from a catalog simply do not suffice. Our wide range of designs, materials and expertise ensures that our solutions satisfy our customers' unique requirements for form, fit, performance and cost.

Solutions for protecting wires in:

- Sliding doors
- Swing doors
- Seat systems
- Retractable hardtops
- Truck tilt cabs
- Hybrid and electric vehicles
- Automated banking
- Automated vending
- Automated gaming
- Automatic doors and screens
- And many more!



Multifunction Seats



Service Ramps



Retractable Tops



Steering Columns



Sliding Doors

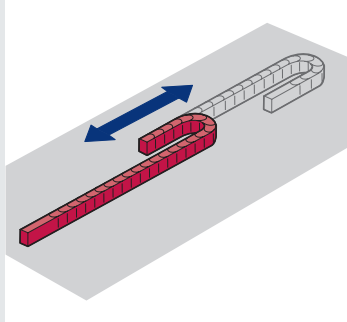


Interior



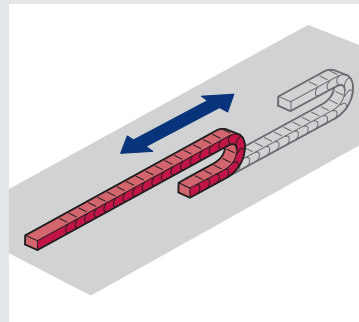
Operating examples

Decades of experience in product design, development and applied technology ensure that we have the expertise and product solutions to tackle our global customers' most challenging applications.



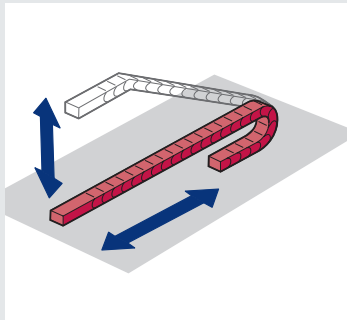
Horizontal

Ideal when operating height is limited.



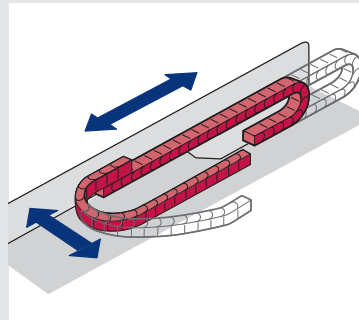
Vertical

Ideal when operating width (depth) is limited.



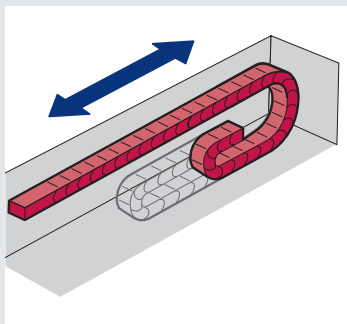
Horizontal/Vertical

Ideal when the required movement is in 2 axes.



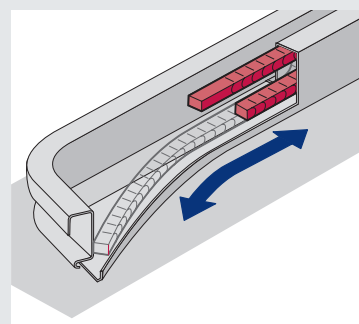
Combined

2 systems. Ideal when multi-axis operation is required.



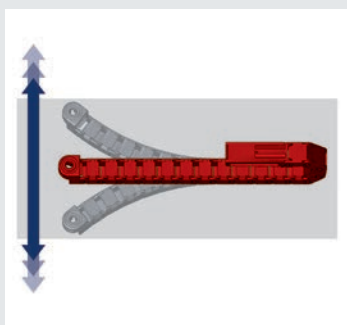
Rolled

Ideal when the fixed point is off center and height is restricted.



Cassette

Ideal all-in-one system when installation steps must be reduced and simplified.



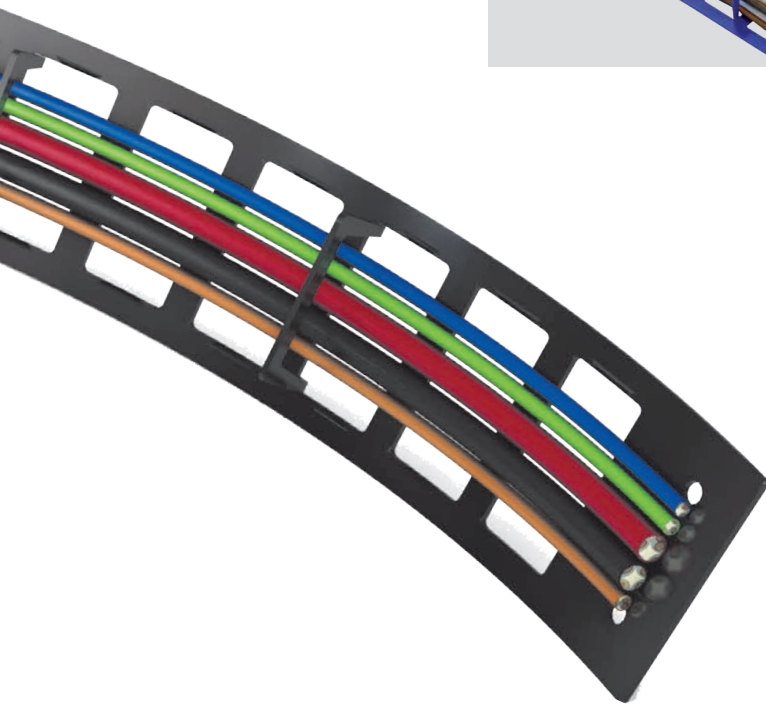
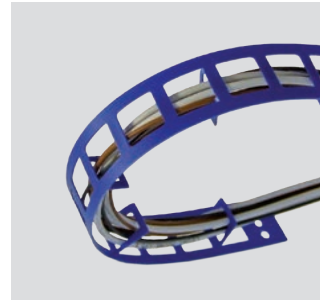
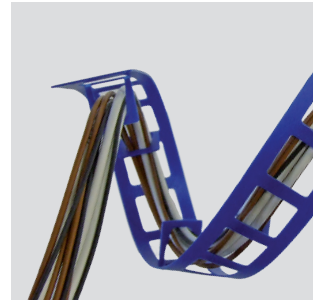
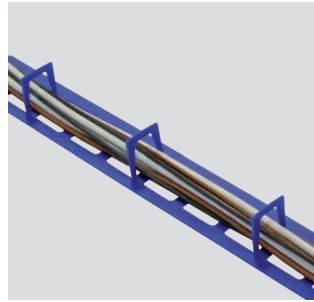
Lateral

Ideal when dual-axis movement, such as forward and back, as well as in and out, is required.

FIT ULTRALIGHT FLEXIBLE INSTALLATION TAPE

FIT solves common wire routing problems

With FIT you can reduce the weight of a cable routing to a minimum. Due to the simple design and the ultra-light installation band, even highly complex cable management tasks can be solved.



FIT is

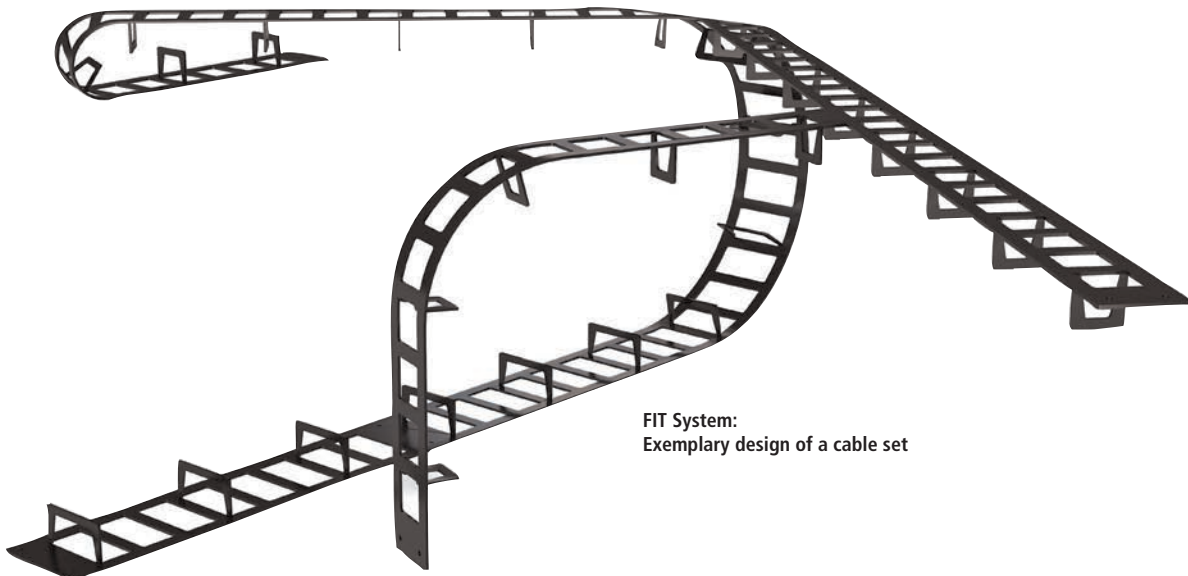
- ultralight
- quiet
- easy to assemble
- flexible
- flat
- easy to fill

FIT is an alternative to

- cable straps
- adhesive tape
- split conduits
- clips and clamps
- spiral hoses
- cable sleeves or braided composite tubes

FIT material examples

- foam materials
- metals
- textile and leather
- plastics e.g. PP, PE, PA
- papers and cardboards
- elastomers



FIT System:
Exemplary design of a cable set

Under seats



Underbodies



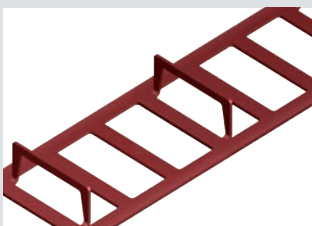
Dashboards



Sidewalls



Choose your own shape



Pop-Up



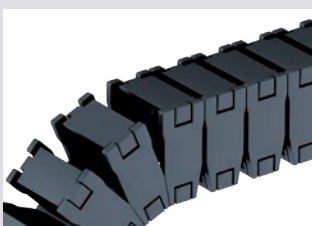
Stamped or Cut



Molded



Press-In



Endless



Flat



Multi-Cavity



2-Piece

Cables for Motion – perfect for use in cable carrier systems

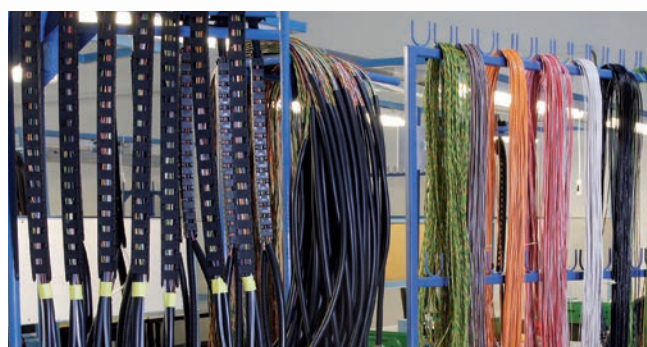
Continuous bending hi-flex cables

Our cable ranges meet the highest quality standards in order to ensure availability of your systems and installations. With the range, we offer a selection of cables which are cost-effective, flexible and extremely durable.

A key factor for our cables is their tested and proven operational reliability, which meets all applicable standards and directives. Competent, focussed system consultation and global on-site service are both part of what we consider an on-going commitment to the technical and commercial optimization of your applications.



Cable warehouse



Wire harness process

Highly flexible insulated vehicle wires from 0.35 mm² to 2.50 mm²

Developed for

- Automotive
- Small bending radii
- Small cable diameters
- Long lifetime
- Dynamic loads

Characteristics

- Temperature resistant
- Oil resistant
- RoHs conform
- DecaBDE-free
- Acc. to ISO 6722
- Flame retardant



Design

Conductor: Fine-wire stranded conductor
El-Cu litz wire bright soft

Core insulation: TPM

Core color: On request

Core stranding: Single-core

Core identification: TSUBAKI KABELSCHLEPP /
conductor cross-section

Print distance: Max. 200 mm

Technical specifications

Temperature range: – 40 to + 125 °C

Minimum bending radius moved: $KR_{min} \geq 5.0 \times \varnothing$

Test voltage: > 1 kV (30 min.)

Operating voltage: Max. 60 V

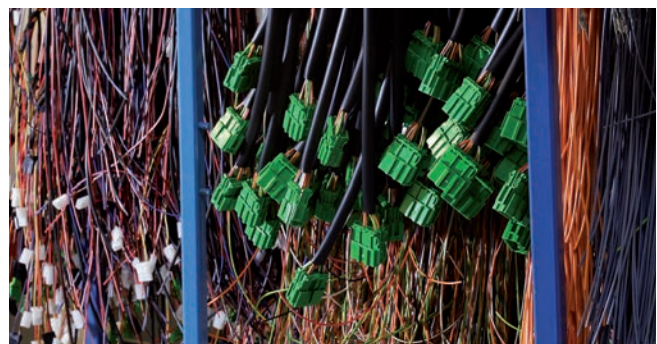
Regulations: Following ISO 6722



Varying parameters possible – please contact us!

Technical information

Mat.-No.	Cross-section (mm ²)	Conductor design	Insulation wall thickness (mm)	Outer diameter (mm)	Conductor resistance bare (Ohm/km)
50291	0.35	180 (+/-10 %) x max. 0.05	min. 0.20	1.35 (+/-0.05)	max. 54.4
50290	0.50	256 (+/-10 %) x max. 0.05	min. 0.22	1.60 (+/-0.05)	max. 37.1
50289	0.75	392 (+/-10 %) x max. 0.05	min. 0.24	1.85 (+/-0.05)	max. 24.7
50288	1.00	511 (+/-10 %) x max. 0.05	min. 0.24	2.10 (+/-0.10)	max. 18.5
50287	1.50	392 (+/-10 %) x max. 0.07	min. 0.24	2.35 (+/-0.10)	max. 12.7
50286	2.50	651 (+/-10 %) x max. 0.07	min. 0.28	2.90 (+/-0.10)	max. 7.6



Developed for cable carriers

From development to series production

Know-how and experience from the inventor of the cable carrier

KABELSCHLEPP is the inventor of the cable and hose carrier and has more than 60 years experience in the development and production of cable routing systems. Since 1996 KABELTRAX is the Automotive Division of the TSUBAKI KABELSCHLEPP GmbH.

KABELTRAX offers Engineering Support in the design phase with the know-how of experienced specialists and the use of state-of-the-art CAD-systems.

KABELTRAX is an approved OEM-supplier who knows the requirements of customers very well and implements these, e.g. by using FMEA and Moldflow analyses.

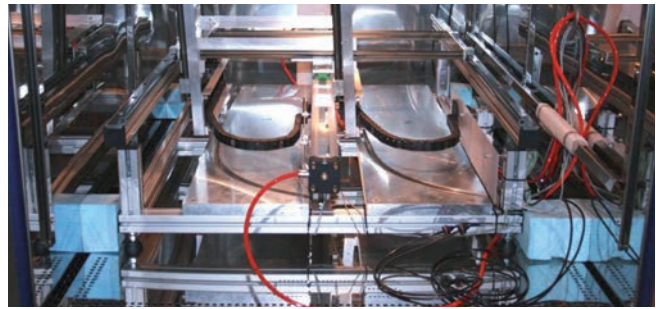
Over two decades we have supplied satisfied customers with millions of systems. Many vehicle types of various brands all over the world are fitted with our products.

Specially developed assembly machines, designed for high production volumes, and our permanent quality inspection enable the production of large quantities with the highest quality (zero-fault strategy).



Testing

As manufacturer of cable and hose carrier systems we also support our customers in development and testing. If demanded by the customer, KABELTRAX will carry out tests on project specific test benches in accordance with customer's specification, even under climatic conditions and with original installation parts.



Customized test installations and test benches

Specimen

Depending on requirements and purpose of use we can supply prototypes as SLS-parts, silicon casting or made from pre-series tools without delay.

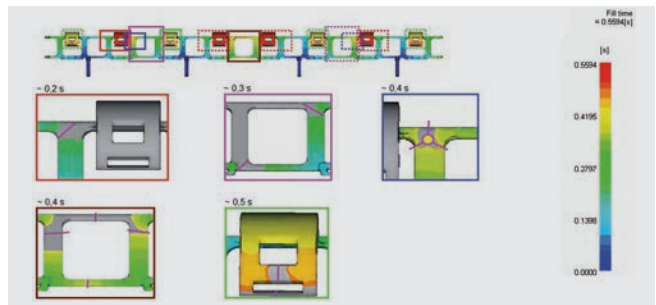


Prototypes

Design

Already in the project phase we account for a process optimized and tool compliant design, which minimizes the fault rate in series production and optimizes the production process.

Our designers work with CATIA and Inventor, the design is safeguarded by Mold-Flow analyses and APIS-FMEA.



Process optimized design

Installation space examinations

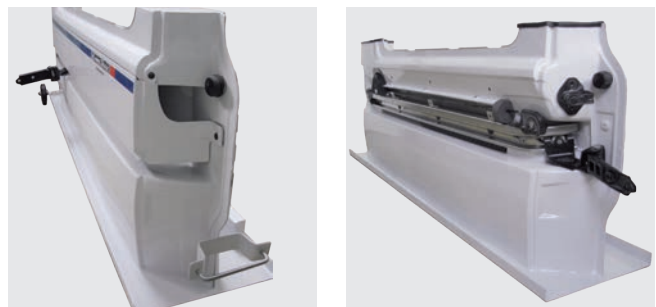
For our customers we can perform CAD installation space examinations already in the pre-development stage and present a proposal for an ideal cable and hose carrier system.



Installation space examinations

Models

On request we can also install the concepts developed by us into area models for the purpose of presentation and feasibility studies.



Area models

KABELTRAX

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TSUBAKI + KABELSCHLEPP = MORE ...

... PRODUCT SOLUTIONS

An expanded product portfolio of TSUBAKI products and KABELSCHLEPP cable carrier systems.

... INNOVATIONS

A combined global R&D with even more resources ensures a quicker response to our customer's needs.

... REGIONAL SERVICE

A combined TSUBAKI and KABELSCHLEPP sales force provides added local support. KABELSCHLEPP products are also available through the TSUBAKI network of distributors.

... GLOBAL SUPPORT

A unified global sales and support network extends to over 70 countries around the world, providing service and support when and where you need it most.

... CUSTOMER VALUE

Together we will continue to prove our reputation as one of the industry's "Best Value" supplier in the industry.

Our production plants in Germany, Japan and USA



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