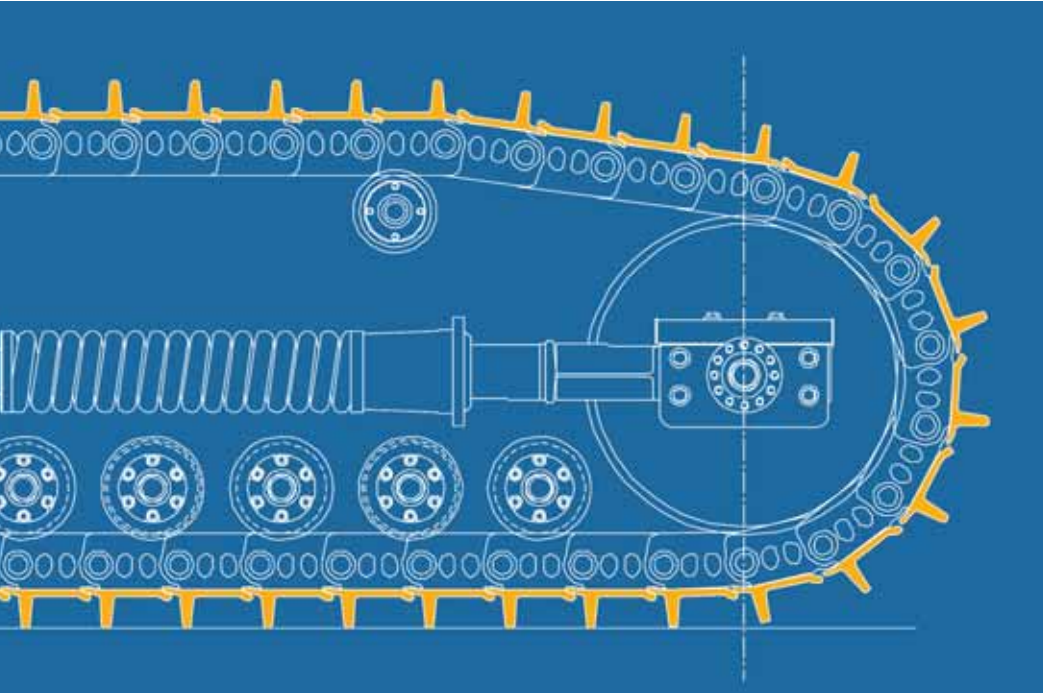


Track Shoes

The Widest Choice



Berco

Moving Your Business Ahead



Leadership in Undercarriage

For about 90 years Berco's leadership and research has resulted in the greatest undercarriage value. Quality is the critical link that assures the maximum productivity of your machine. No one has invested more than Berco to assure dependable **High Quality Undercarriage**. Berco starts with the highest quality steel, then controls hardened depth along with other performance features. As a result Berco's undercarriage is second to none for extended wear life and value.

Getting the Most from your Undercarriage

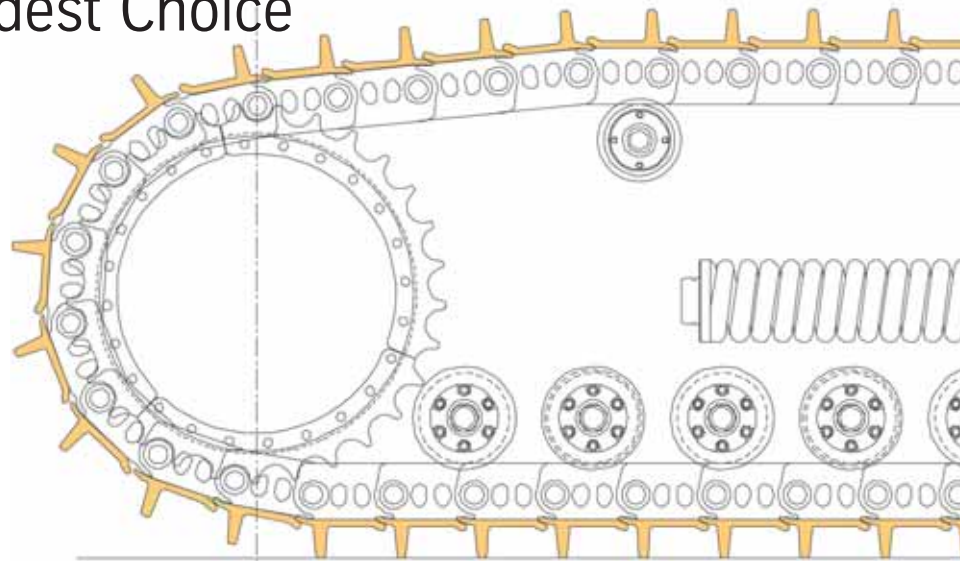
Since 1920 Berco has continued to innovate and improve undercarriage performance. High-quality materials and careful manufacturing processes ensure that Berco undercarriage components are reliable, durable and wear at a predictable rate. Longer life and controllable wear mean that you get **maximum undercarriage performance** at the **lowest** operating **cost**. At Berco we call it "**Best Undercarriage Value**"

Berco Process Control

Berco builds value & durability into every undercarriage component. Berco controls processes critical to durability and value, such as: design, raw material, heat treating, manufacturing and because **Berco has control over these processes**, our undercarriages wear at a predictable rate and can be managed as a system.

Track Shoes

The Widest Choice



Berco Track Shoes

Berco track shoes are *through hardened* and stress relieved to guarantee excellent wear, high strength and resistance to bending and breakage resulting in longer life. Berco offers the widest variety of track shoes and track shoes options (clipped corners, mud holes, etc.) to meet the requirements of every work environment.

Your Best Undercarriage Value

- Heavy duty rolled steel profiles
- Low alloyed Boron Steels with certified hardenability based on Berco specification
- *Through hardened* and stress relieved for high strength and resistance to bending and breakage
- Surface hardness HRC 47 for reduced wear and longer life
- Precise design, carefully manufactured for proper fit
- Easy regrousering

The Widest Choice

- Over **50 different profiles** with Single, Double and Triple grousers
- Greatest selection of shoe **configurations**: width, chamfered holes, mud holes, clipped corners, etc.
- **Cast steel shoes**: swamp type, flat type, etc.
- **Forged shoes** for special applications: mining, etc.
- **Rubberized, polyurethane** and **rubber clamped-on** steel shoes
- More than **4.000** different shoes, to match any chain or application
- Chain pitch range **101÷350 mm**
- The choice of the leading OEMs

Customer Satisfaction

Considering that more than 50% of your maintenance costs will go into maintaining the undercarriage, it is not surprising that Berco represents the best choice when the time comes for the replacement. And the best choice is confirmed by the large number of **Satisfied Customers that Keep Choosing Berco**

The Widest Choice

Standard Applications



Single Grouser Shoes

Typically for bulldozers when grip and traction are the main factors

Chain Pitch 125÷317.5 mm

Double Grouser Shoes

Typically for loaders when medium traction and maximum maneuverability are needed

Chain Pitch 101.6÷286.5 mm

Triple Grouser Shoes

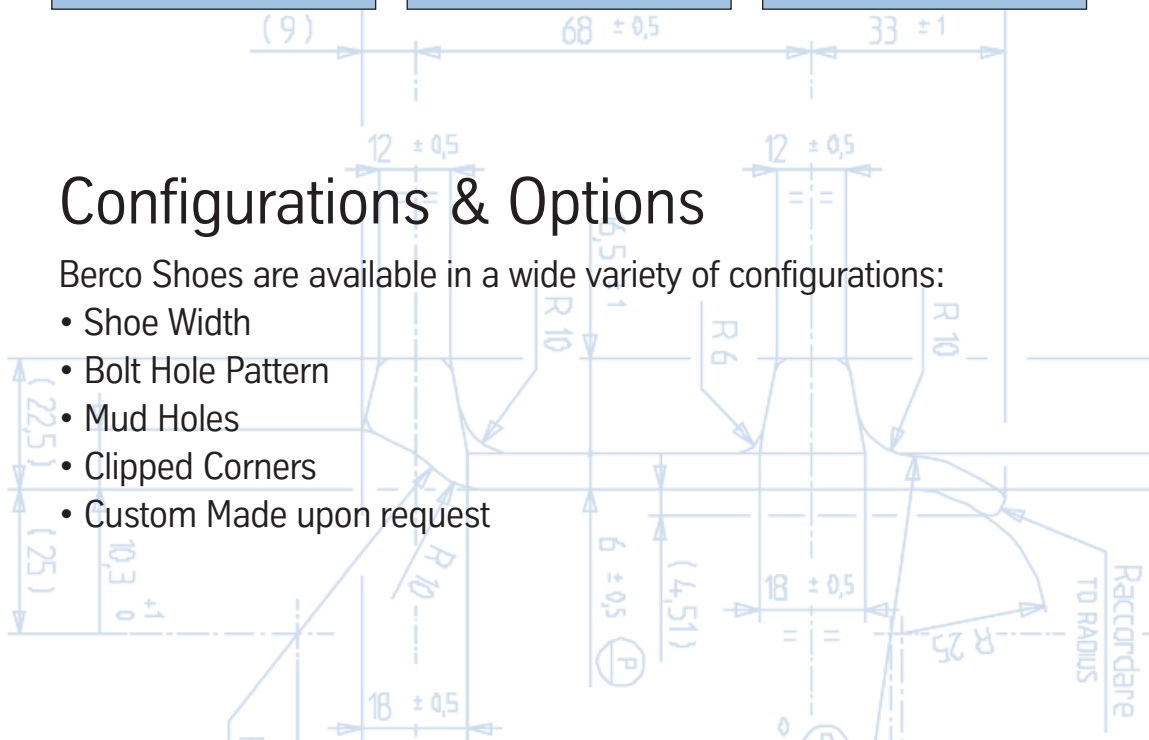
Typically for excavators, when a firm grip, low ground pressure and maneuverability are needed

Chain Pitch 125÷229 mm

Configurations & Options

Berco Shoes are available in a wide variety of configurations:

- Shoe Width
- Bolt Hole Pattern
- Mud Holes
- Clipped Corners
- Custom Made upon request



The Widest Choice

Special Applications

THE WIDEST CHOICE

Forged Shoes



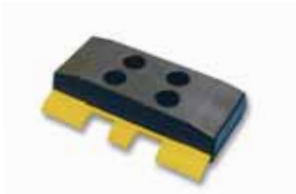
In extreme applications, like in the mining industry, products with exceptional properties are needed. To satisfy the needs of these highly demanding customers, Berco has developed a range of specially forged shoes. A fully automated forging line, employing a 32.000 ton press, followed by machining and heat treat processes, deliver a product with the greatest mechanical and wear resistance properties.

Track shoe for bulldozer with a 317.5 mm chain pitch.

Track shoe for maxi-excavators with a 350 mm chain pitch.



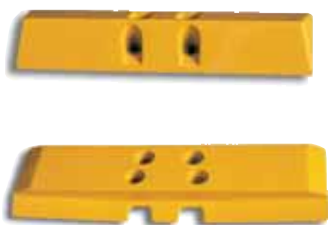
Rubber & Polyurethane Shoes



Berco offers a variety of Rubberized, Polyurethane and Rubber clamped-on steel shoes. Typically used on paving machines, etc..



Cast Steel Shoes



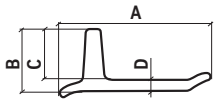
Berco offers a variety of high resistance cast steel shoes, suitable for special applications.

Self-cleaning shoes (swamp type) to be used in sticky type soils.

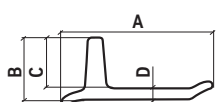
Flat type shoes for running on concrete or hard surfaces when high traction is not needed.













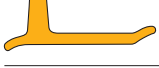



Single Grouser Shoes

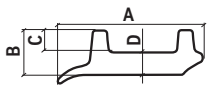





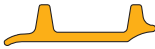

	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 29 A	125	9,7	135	42	35	7
	B 27	135 ÷ 152,4	14,0	160	51	43	8
	B 141	146	14,8	156,5	50,5	41	9,5
	B 109	154 ÷ 165	17,8	180	56	47	9
	B 135	160	19,6	183	58,5	49	9,5
	B 166	171,45	21,8	200	58	47	11
	B 69 A	169,8 ÷ 175,5	23,9	198	64,5	53	11,5
	B 119	170 ÷ 171,45	26,1	200	71	58	13
	B 139	175,5	25,4	199,5	67	55	12
	B 107 B	190	29,1	222	69	55,5	13,5
	B 117	190	34,4	222	82	67,5	14,5
	B 142	202,9 ÷ 203,2	31	232,5	77	65	12
	B 97 A	202,9 ÷ 216	38,2	245	86,2	71,5	14,7

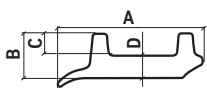



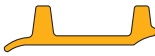





	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 47	215,9	47,9	247,6	88	71,4	16,6
	B 106	215,9	53,9	242,5	103	84	19
	B 4	228,6	49,4	276	94	76,5	17,5
	B 134	228,6	50,5	268	97	80	17
	B 22 A	228,6 ÷ 250,83	56,6	260	96,5	77,5	19
	B 143	228,6	59,5	268	99	80	19
	B 103	228,6	70,4	263	116	93	23
	B 125	240	64,8	285	104	84	20
	B 23 A	260,35	71,4	301	108	87,5	20,5
	B 144	260,35	72,8	305	113,5	93	20,5
	B 153	260,35	83,8	298	123,5	101	22,5
	B 149	280 ÷ 286,5	83,0	322	116	93	23
	B 101	280 ÷ 286,5	88,2	320	130	106	24
	B 163	317,5	103,4	370	127	102	25

Double Grouser Shoes

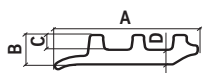











	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 115	101,6	8,4	110	22,5	16,5	6
	B 165	160	23,6	191,8	41	29,8	11,2
	B 158	171,45	26,4	197	48	37	11
	B 159	175,5	30,4	207	50,5	37,5	13
	B 116	190	32,9	219	48	35	13











	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 160	203	39,6	234	56,5	42,5	14
	B 161	215,9	49	250	64,5	49,5	15
	B 154	228,6	66,3	261	71	46	25
	B 112	260,35	73,7	306	70,5	50	20,5
	B 155	260,35	77,5	297	76	52	24
	B 111	260 ÷ 264	107,6	297	90	45	45
	B 150A	280 ÷ 286,5	80,8	306	73,5	50	23,5

Triple Grouser Shoes



	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 114	125 ÷ 135	13,36	145	26	18	8
	B 156	135	10,87	154	17	11	6
	B 17	140 ÷ 152,4	17,3	163	27	18	9
	B 18 A	160	22,6	186	32	22	10
	B 108	171,4	24,5	199	34,5	25	9,5
	B 64 C	170 ÷ 176	29,35	203	38	25,3	12,7
	B 126	190	27,4	220	35	25,5	9,5
	B 129	190	28,9	217,5	36	26	10
	B 110	190	32,6	222,5	40,5	28	12,5



	Profile code	Chain pitch (mm)	Linear weight (kg/m)	A (mm)	B (mm)	C (mm)	D (mm)
	B 130 A	203,2	35,46	240	38,5	26,5	12
	B 19 D	203,2	40,87	240	41,5	26,5	15
	B 146	216	40,28	247	47	36	11
	B 168	216	45,1	254,5	50	37	13
	B 120	216 ÷ 228,6	48,0	253	47	30,5	16,5
	B 169	216 ÷ 228,6	55,09	254,5	55	37	18
	B 88	228,6	69,8	266	60	30	30
	B 95	215,9	55,69	245	49	26,5	22,5

Adding Value to Our Products

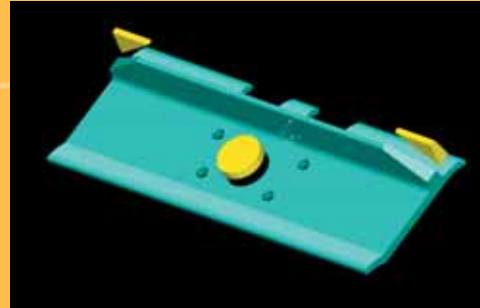
Adding value to Your Business



3D modeling of a die for track shoe



3D modeling of a swamp type shoe



3D modeling of clipped corners and mud holes



Rapid prototyping



Electron microscope with microanalysis



Stress analysis at extreme temperatures

Making a Superior Product

It all begins in the design stage, Berco **Research & Development** engineers employ state of the art computer design. The use of 3D modeling and finite element analysis (FEM) allow us to design and evaluate a component before it is built.

Our **Rapid Prototyping** enables Berco's engineers to optimize a design before spending money in tooling.

Berco **Metallurgy Laboratory** employs advanced machines such as an electron microscope with microanalysis, a spectrophotometer, tribometers for wear tests, MTS presses for static and fatigue tests on materials and components.

Photo-elasticity and **strain gauge** techniques are commonly used for stress and fatigue analysis on individual and assembled components.

Stress analysis at **extreme temperatures** (-70°C ÷ 250°C) are also carried out.

Reliability Test on components (ex. rollers) are carried out to determine life and performance in a variety of field applications.

Artificial Intelligence and **Vision** techniques are currently being developed to automatically inspect 100% of components. This reduces defects (ex. after forging or heat treatment) attributable to manufacturing to almost zero.

Huge efforts are also devoted to the development of **New Materials** and improvement of the **Heat Treating Processes**, to guarantee longer product life and **Superior Products**.

Having supplied leading OEMs for decades, **Berco's Engineers** and product specialists can help you design and manufacture the right undercarriage, using high tech software, tools and expertise. Berco can also help you reduce development and engineering time, tooling expenses and facility costs. **Berco Adds Value** not only to our products but also **to Your Business**.

State of the Art Production

State of the Art Components



With a capacity of over **85,000 ton** of finished product the Berco Track Shoes Department manufactures more than **6,000,000 shoes** per year. From the central raw material warehouse the steel bars are transferred to one of the automatic cutting & punching stations. Further operations include holes chamfering and/or corner clipping. Semi-finished shoes are then automatically palletized and transported either to the intermediate warehouse or directly to the heat treatment furnace for heating, quenching and stress relieving. Sand blasting and painting follow before finished shoes are palletized ready for delivery. Final inspections of the finished products guarantees the **Total Quality** of all components.

Automated Processes Automatic Quality

The production process is fully automated and computer controlled via a Computer Manufacturing Technology system. This guarantees highly reliable processes and constant quality of the products.

The Right Product at The Right Time

A vast variety of raw materials and flexible manufacturing give the competitive advantage of short lead times while matching your specific need. That's what we also call **Customer Satisfaction**.

Heat Treated to Treat You Even Better

Quality materials and state-of-art manufacturing are not enough to guarantee the quality of the finished products. That's why the track shoes heat treated in a tunnel furnace where all process parameters (time, temperature gradients, quenching temperature, etc.) are constantly monitored online. Through hardening and tempering processes ensure excellent mechanical properties and superior wear resistance for longer product life.



Raw material warehouse



Cutting and punching



Heat treatment tunnel furnace



Painting



Automated palletizing

We Care



Customer Service

We have a large dealer network covering 70 countries in the world. They have been in business for decades, they know the business and they know it from their customers' point of view. They understand **customers' needs** and they know that their success is tied to their customers' successes.



We **support** our dealers with our professional sales force. We train them, we provide them with the right marketing tools and advanced technological systems. We have developed a computer based integrated system **BOPIS** (Berco Online Product Information System) enabling a dealer technician to use a laptop computer from the field to consult our database and easily find the right answer.



We back you, wherever you are. We work with our dealers to establish a parts and service presence near you, in order to always have the right product at the right time in the right place. It is customer satisfaction that has built our **Berco Track Record**.



Leadership in Environmental Development

Not only do **we care** about our **customers** supplying quality products manufactured under **ISO 9001** certified processes, but also **we care** about the **Environment**.

Since Jan 2000 Berco is **ISO 14001** certified and has adopted **Environmental Procedures** throughout the entire manufacturing process. We have an **Environmental Strategy** and we continuously check on the progress made toward the set Objectives.

Getting More out of Less.

Reduction of energy consumption, improved use of materials and minimization of waste, allows for a lower impact on the environment. We have given preference to environmentally friendly transportation like trains and boats and we have begun redesigning our packaging in order to use recyclable materials. We have changed our painting processes and now use environmentally friendly water-based paint, with a reduction in the amount of pollutant emissions. We have adopted a closed loop cooling system that reuses the water from our heat treatment processes instead of emitting it into the environment.



Leader in Quality

I-Net
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

I-Net and its partner
CROQIM
hereby certify that the organisation

BERCO S.p.A.

Head Office and Operational Unit, Via F. Maggi, 237 - 44034 Copparo (FE)
Operative Units: Borgo Padovani, 2 - 44030 Casalefranca Veneto (FE)
Via Sesto, 20 - 44030 Bussone Carpiense (FE)

for the following field of activities

Design, development, production, sale and service of components and undercarriage systems for earth-moving, agricultural machines and of machine tools.

has implemented and maintains a
Quality Management System
which fulfils the requirements of the following standard

ISO 9001:2000

Issued on: **2008-09-18**
Validity date: **2009-09-17**
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I-Net *Fabio Rivetti* President of I-Net **CROQIM** *Giuseppe Pini* President of CROQIM

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CERTIFICATO N. **00284**
CERTIFICATE No.

BERCO S.p.A.

Sezione Operativa
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Unità Operativa
Borgo Padovani, 2 - 44030 Casalefranca Veneto (FE)
Via Sesto, 20 - 44030 Bussone Carpiense (FE)

UNI EN ISO 9001:2000

SA-17

Progettazione, sviluppo, produzione, vendita e assistenza di componenti e sistemi per attrezzature di macchine movimento terra, agricole e di macchine utensili.
Design, development, production, sale and service of components and undercarriage systems for earth-moving, agricultural machines and of machine tools.

ICIM S.p.A.

Leader in the Environment

I-Net
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

I-Net and its partner
CROQIM
hereby certify that the organisation

BERCO S.p.A.

Via F. Maggi, 237 - 44034 Copparo (FE)

for the following field of activities

Design, development, production, sale and service of components and undercarriage systems for earth-moving, agricultural machines and machine tools obtained by forging, heat treatment, machining, assembly, painting, packaging and shipping processes.

has implemented and maintains a
Environmental Management System
which fulfils the requirements of the following standard

ISO 14001:2004

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Via F. Maggi, 237 - 44034 Copparo (FE)

UNI EN ISO 14001:2004

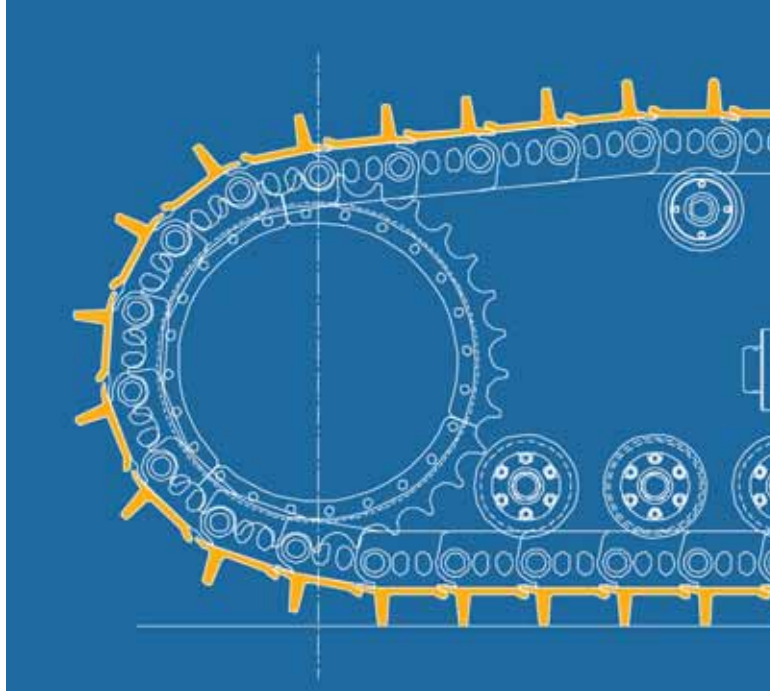
SA-17

Progettazione, sviluppo, produzione, vendita e assistenza di componenti e sistemi per attrezzature di macchine movimento terra, agricole e di macchine utensili ottenute per forgiatura, trattamenti termici, lavorazioni meccaniche, assemblaggio, verniciatura, imballaggio e spedizione.
Design, development, production, sale and service of components and undercarriage systems for earth-moving, agricultural machines and machine tools obtained by forging, heat treatment, machining, assembly, painting, packaging and shipping processes.

ICIM S.p.A.

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The specifications and processes described in this brochure are subject to change without notice

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