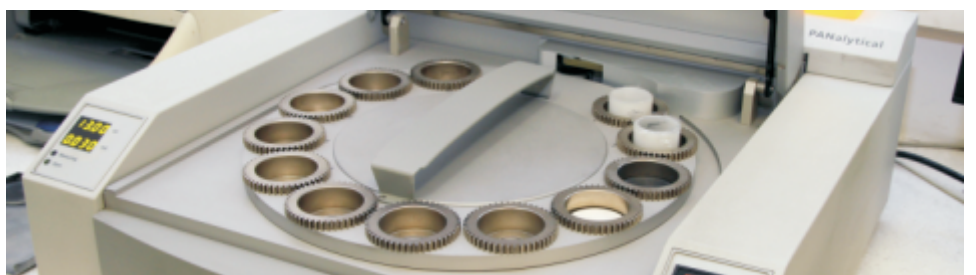




TDR Legure d.o.o.



Product Line Overview

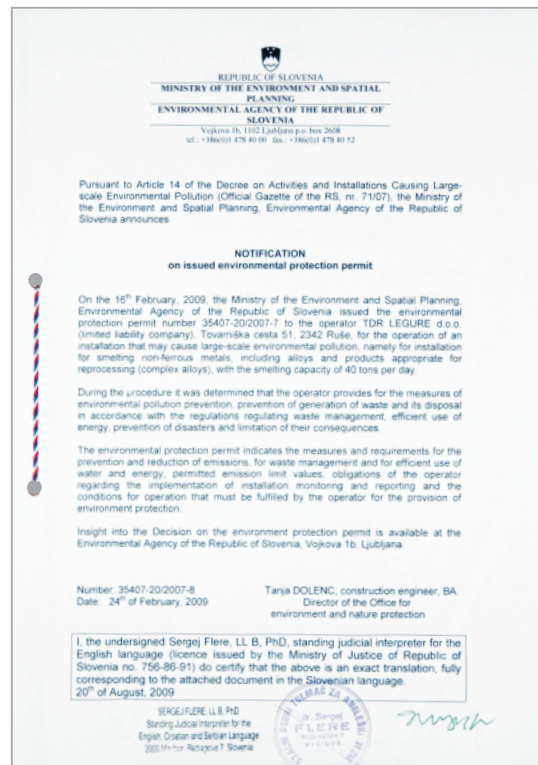


ABOUT US

Company TDR Legure was established in February 2007 with the privatization and restructuring process of the previous company TDR Metalurgija in Ruše. TDR Legure is the successor to the so-called complex alloys program, which was once developed in TDR Metalurgija and has constantly been improved for many decades.

Today the primary production program still consists of the aforementioned complex alloys, which are used in different types of foundries for the production of high-quality cast iron, such as parts of breaking systems for the automotive industry, pipes for the distribution of drinking water or parts of wind turbines. These alloys are called "nodulatorji in cepiva" or in English "Nodularisers and Inoculants".

In general the company produces alloys with the technological upgrade of standard ferrosilicon. This means products with a higher level of added value.



QUALITY

Our basic task is satisfaction of customer's needs. We realize that the quality of products and services can be assured only systematically. Therefore quality assurance is our priority.

ENVIRONMENT

TDR Legure d.o.o. is constantly striving to reduce its impact on the environment. Control and reduction of negative influence on environment is our main goal.

NODULARISERS

Nodularisers are according to their composition complex alloys of high quality. Their basic task is to introduce magnesium into grey iron melt.

Depending on the metallurgical condition of the base metal, we are able to offer you a wide spectrum of qualitative nodularisers adapted to your specific requirements.

STANDARD TYPES OF FeSiMg:

Chemical composition, % by mass

	Si	Mg	Ca	CeMM	Al
FeSiMg 411	44 - 48	3,8 - 4,5	0,8 - 1,5	0,8 - 1,5	Max. 1
FeSiMg 511	44 - 48	5,2 - 5,8	0,8 - 1,5	0,8 - 1,5	Max. 1
FeSiMg 522	44 - 48	5,0 - 6,0	1,8 - 2,3	1,8 - 2,3	Max. 1
FeSiMg 611	44 - 48	5,9 - 6,5	0,8 - 1,5	0,8 - 1,5	Max. 1
FeSiMg 620	44 - 48	5,9 - 6,5	1,7 - 2,3	/	Max. 1
FeSiMg 731	44 - 48	6,5 - 7,5	2,7 - 3,3	0,8 - 1,5	Max. 1
FeSiMg 832	44 - 48	7,5 - 8,5	2,7 - 3,3	1,7 - 2,3	Max. 1
FeSiMg 911	44 - 48	8,8 - 10	0,8 - 1,5	0,8 - 1,5	Max. 1

FeSiMg is introduced via Sandwich or Tundish Cover process into the ladle, covered by protection material and overpoured by the iron melt.

Chemical composition can be modified according to customer's exact request.

Personalized Product Data Sheet for every customer.

GRAIN SIZE

Standard grain sizes:

1 - 10 mm
2 - 15 mm
3 - 25 mm
4 - 32 mm

Grain size can be modified according to customer's exact request.



INOCULANTS

Inoculants are according to their composition complex alloys of high quality. Their basic task is to produce heterogenic nuclei – crystallization centres in the metal. Depending on the metallurgical condition of the base metal, location and addition method, the time period in which the inoculant has to keep its activity, TDR Legure can offer wide spectrum of complex modifier.

STANDARD TYPES OF INOCULANTS:

Chemical composition, % by mass

	Si	Ba	Ca	Al	CeMM	Bi	Sr	Fe
RB 1	Min. 65	0,8 - 2,0	0,8 - 1,5	0,8 - 1,5	/	/	/	Rest
RB 25	Min. 65	1,8 - 2,5	1,5 - 2,2	0,8 - 1,7	/	/	/	Rest
RB 5	Min. 65	4,5 - 5,5	1,5 - 2,2	Max. 2,5	/	/	/	Rest
RSr71	Min. 72	/	Max. 0,2	Max. 0,2	/	/	0,6 - 1,0	Rest
FeSi4Al	Min. 65	/	0,8 - 1,5	3,5 - 5,0	/	/	/	Rest
Rubicer	Min. 65	/	1,5 - 2,5	0,7 - 1,5	0,6 - 1,0	0,8 - 1,3	/	Rest
Rubicer 05	Min. 65	/	1,2 - 2,0	0,7 - 1,5	0,2 - 0,5	0,4 - 0,7	/	Rest
FeSi special	Min. 70	/	0,7 - 1,5	1,0 - 2,0	/	/	/	Rest

Chemical composition can be modified according to customer’s exact request.
Personalized Product Data Sheet for every customer.

GRAIN SIZE

Standard grain sizes:

0,2 - 0,7 mm
0,7 - 2,0 mm
2,0 - 6,0 mm

Grain size can be modified according to customer’s exact request.

PRECONDITIONER

RB10 is a preconditioner that reacts with molten iron within few seconds after input. Its main purpose is to reduce oxygen in molten iron before treatment with Mg.

STANDARD TYPE OF PRECONDITIONER:

Chemical composition, % by mass

	Si	Ba	Ca	Al	Fe
RB 10	Min. 65	8,5 - 11,5	1,5 - 2,5	Max. 2,5	Rest

Chemical composition can be modified according to customer’s exact request.
Personalized Product Data Sheet for every customer.

GRAIN SIZE

Standard grain sizes:

2 - 6 mm
1 - 10 mm

Grain size can be modified according to customer’s exact request.

PACKAGING

Packaging form	Material quantity (kg)	Units per pallet	Dimensions of units (mm)	Dimensions of pallets (mm)
Big bag	1000	1	900x900x700	1100x1100x150
Big bag	1500	1	900x900x900	1100x1100x150
Steel drum	250	4	Ø 580x880	1200x1200x150
Steel drum	100	6	Ø 420x580	1200x800x150
Paper bag	25	40	450x140x640	1200x800x150

RUBLOCKS

Rublocks are so called mold inoculant blocks. Material composition is a complex ferroalloy on basis of ferrosilicon with adjusted addition of Aluminium.

Chemical composition, % by mass

	Si	Ca	AL	Fe
FeSi4Al	Min. 68	0,3 - 1,5	3,5 - 4,5	Rest

Chemical composition can be modified according to customer's exact request.
Personalized Product Data Sheet for every customer.

CONICAL TYPE - K

K 20	K 40	K 60	K 80	K 150	K 200
20g	40g	60g	80g	150g	200g

PYRAMID TYPE - P

P 300	P 500	P 800
300g	500g	800g

P 2	P 5	P 10	P 15	P 30
2kg	5kg	10kg	15kg	30kg

All weights are approximate and with tolerances $\pm 10\%$.

PACKAGING

Packaging form	Material quantity (kg)	Units per pallet	Dimensions of units (mm)	Dimensions of pallets (mm)
Big bag	1000	1	900x900x700	1100x1100x150
Steel drum	250	4	Ø 580x880	1200x1200x150
Steel drum	100	6	Ø 420x580	1200x800x150
Carton box	20 - 1000	/	/	/

Packaging can be modified according to customer's exact request.



CORED WIRES

CORED WIRES: RUMAG

Chemical composition, % by mass

RUMAG	Si	Mg	CeMM
25 HS	50	25	1
25 MS	50	25	1
25 LS	50	25	3
25 FM	50	25	0
16 QR 3	50	16	3
16 QR 1	50	16	1
16 QR 0	50	16	0

HS - high sulphur
MS - medium sulphur
LS - low sulphur
FM - ferritic matrix
QR - quiet reaction

Chemical composition of the filler can be modified according to customer’s exact request.

ALLOYS FOR CORED WIRE: FeSiMg

Chemical composition, % by mass

	Si	Mg	CeMM	Al
FeSiMg 1631	44 - 50	15 - 17	0,8 - 1,5	Max. 1
FeSiMg 1633	44 - 50	15 - 17	2,5 - 3,5	Max. 1
FeSiMg 2551	44 - 50	24 - 26	0,8 - 1,5	Max. 1
FeSiMg 2531	44 - 50	24 - 26	0,8 - 1,5	Max. 1
FeSiMg 2533	44 - 50	24 - 26	2,5 - 3,5	Max. 1
FeSiMg 2520	44 - 50	24 - 26	/	Max. 1
FeSiMg 2851	44 - 50	27 - 29	0,8 - 1,5	Max. 1

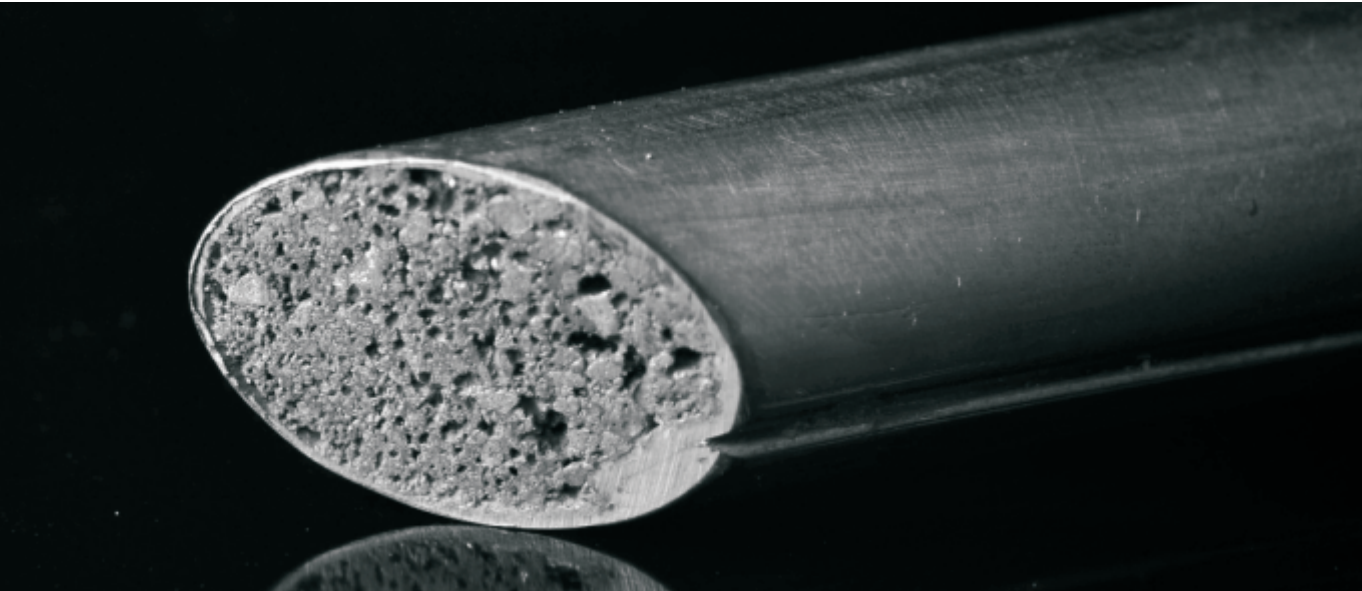
Chemical composition can be modified according to customer’s exact request.

GRAIN SIZE

Standard grain sizes:

0 - 2,5 mm

Grain size can be modified according to customer’s exact request.



CORED WIRES

ALLOYS FOR CORED WIRE: Inoculants

- ▶ All types of available inoculants.
- ▶ Chemical composition can be modified according to customer's exact request.

GRAIN SIZE

Standard grain sizes:

0 - 2,5 mm

Grain size can be modified according to customer's exact request.

CORED WIRE : RUINOC

Chemical composition, % by mass

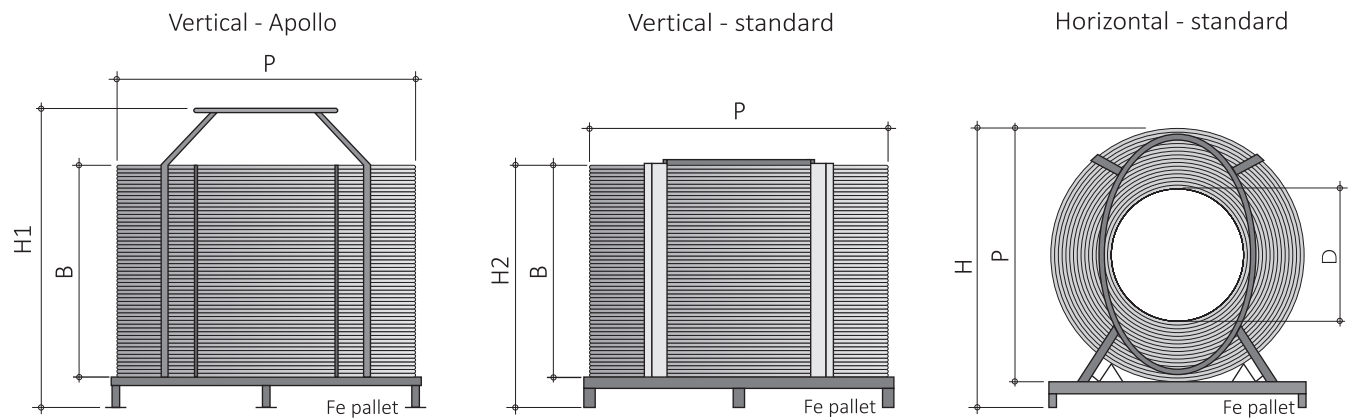
RUINOC	Si	Ba	Ca	Al	CeMM	Bi	Sr	Fe
RB 1	Min. 65	0,8 - 2,0	0,8 - 1,5	0,8 - 1,5	/	/	/	Rest
RB 25	Min. 65	1,8 - 2,5	1,5 - 2,2	0,8 - 1,7	/	/	/	Rest
RUSTRON	Min. 72	/	Max. 0,2	Max. 0,5	/	/	0,6 - 1,0	Rest
RUAL	Min. 65	/	0,8 - 1,5	3,5 - 5,0	/	/	/	Rest
RUBICER	Min. 65	/	1,5 - 2,5	0,7 - 1,5	0,6 - 1,0	0,8 - 1,3	/	Rest
RUBICER 05	Min. 65	/	1,2 - 2,0	0,7 - 1,5	0,2 - 0,5	0,4 - 0,7	/	Rest

Chemical composition of the filler can be modified according to customer's exact request.



CORED WIRE

DATA ON PACKING



Wire diameter 9 mm - wire lenght approx. 6200 m

H1 = 1200
B = 850
P = 1060

H2 = 1000
B = 850
P = 1060

H = 1210
D = 650
P = 1060

Wire diameter 13 mm - wire lenght approx. 4300 m

H1 = 1200
B = 850
P = 1200

H2 = 1000
B = 850
P = 1060

H = 1210
D = 650
P = 1200

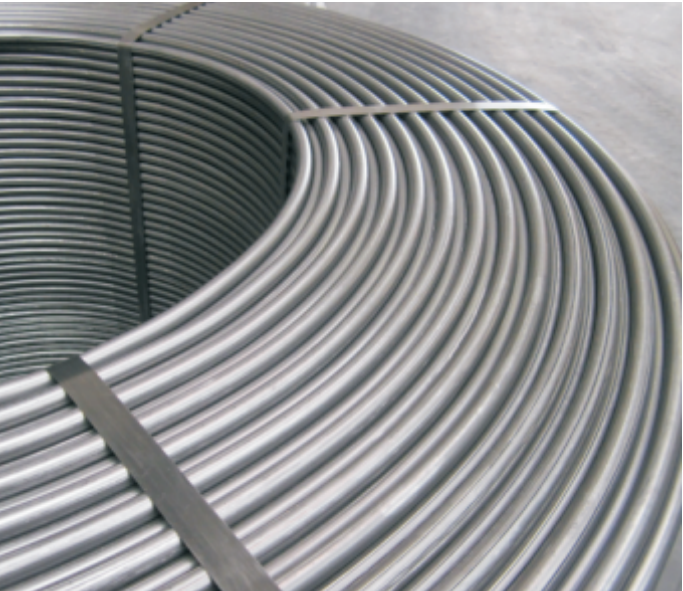
Wire diameter 16 mm - wire lenght approx. 3400 m

H1 = 1200
B = 850
P = 1200

H2 = 1000
B = 850
P = 1200

H = 1350
D = 650
P = 1200

At the customer’s request, the type of packing and the form of cage can be changed.



TDR Legure

CORED WIRE BENEFITS:

- ▶ QUIET REACTION
- ▶ HIGH Mg YIELD
- ▶ CONTROLLED Mg REST: tight tolerances
- ▶ LOW CONSUMPTION
- ▶ LOW TEMPERATURE LOSS
- ▶ LOW CARBON LOSS
- ▶ LOW SLAG QUANTITY
- ▶ GREAT INOCULATING EFFECT
- ▶ BIG TREATMENT IN SHORT TIME
- ▶ TAILOR MADE PRODUCTS

CHEMICAL LABORATORY SERVICES

The main activity of Chemical Laboratory is testing the quality of raw materials and products according to the production programme of TDR LEGURE d.o.o.

In decades of operation within Tovarna dušika Ruše the Laboratory had acquired knowledge, equipment and experience for chemical testing of various solid and liquid materials.

Therefore it also offers services in the fields of:

Ferroalloys, special alloys and metals

Steel

Calcium carbide

Carbon materials

Abrasives

Waste water, waste oil, solid waste

Plants, soils, fertilizers

The services of Chemical Laboratory include crushing, milling and sieve analysis of solid samples and testing using the following analytical methods:

X-ray spectrometry (WDXRF and EDXRF)

Inductively coupled plasma optical emission spectrometry (ICP OES)

UV/VIS spectrophotometry

Infrared detection (IR) for determination of carbon and sulphur content

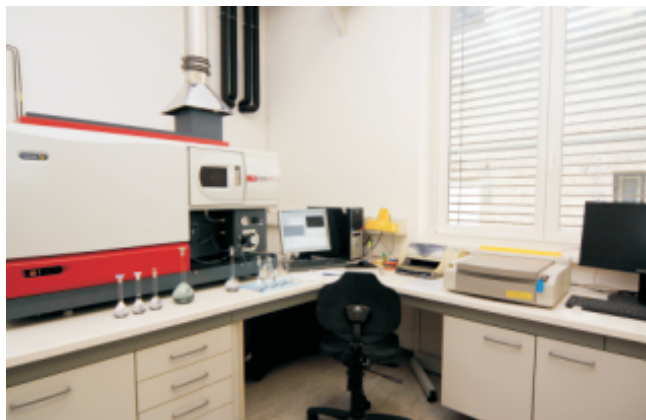
Volumetric analysis

Titrimetric analysis

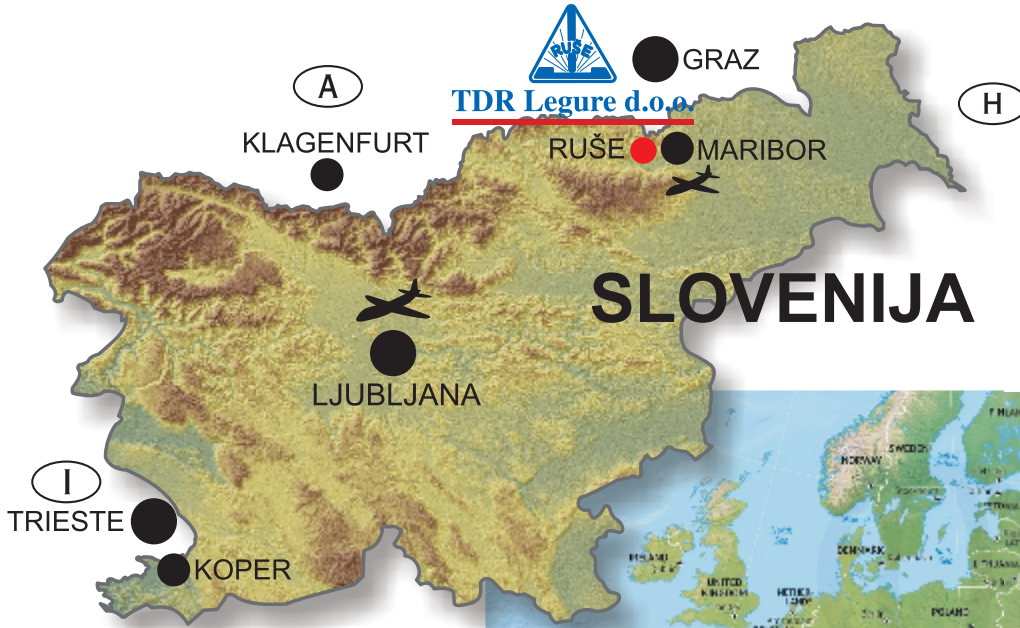
Gravimetric analysis

Electrometric analysis

The Laboratory delivers their services in conformance with standards ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories and ISO 9001 Quality management systems – Requirements. The laboratory workers are aware that only accurate and timely obtained analytical results satisfy users' needs.



WHERE WE ARE



SLOVENIA - a beautiful Middle Europe state, a member of EU, situated directly on euro corridors cross: Barcelona -Kiew and Stockholm - Athens. It also has a port in Koper.



NOTES:

[illegible]



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