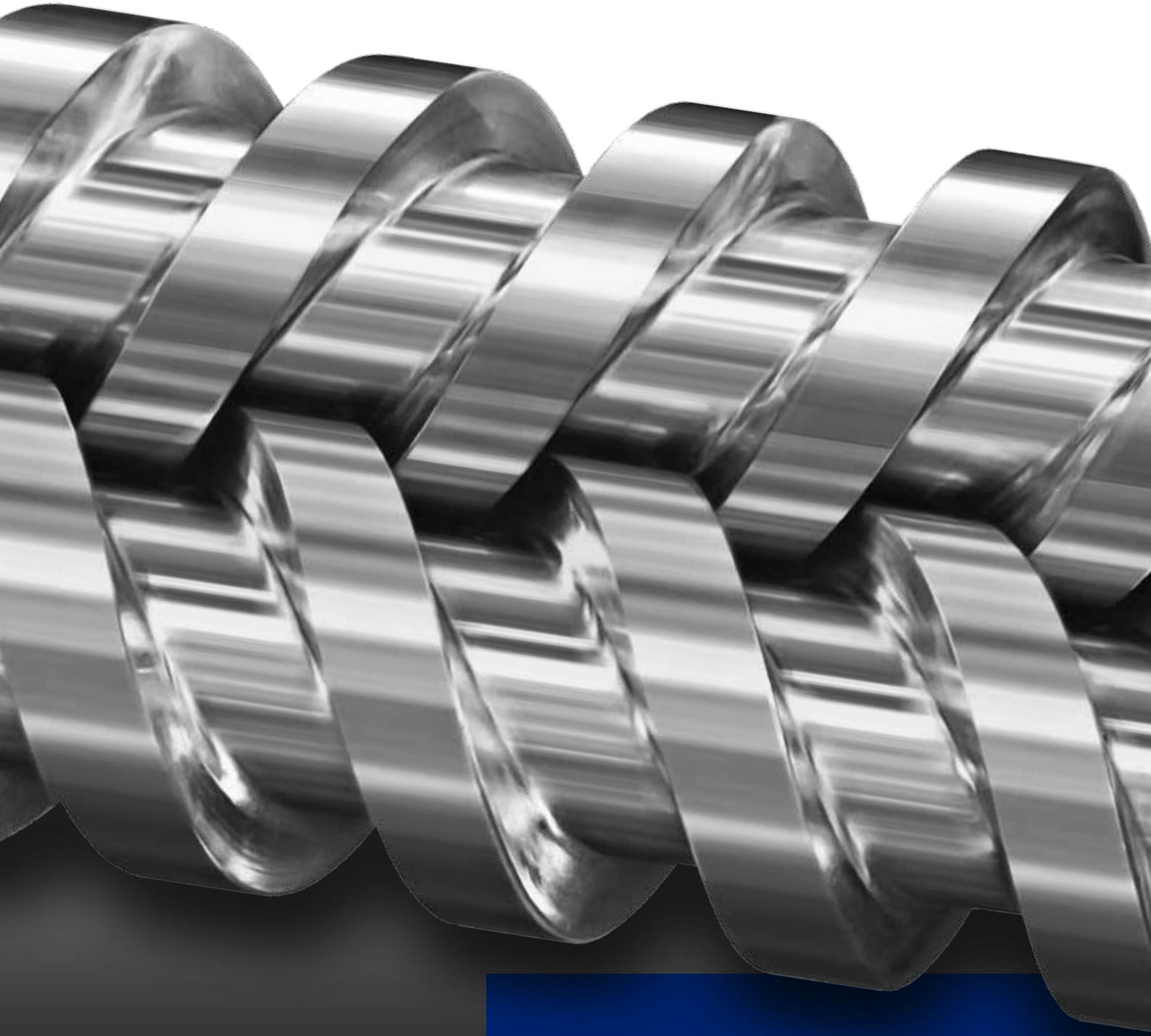
elkrem



Production
Reconditioning
Hardfacing

before reconditioning

after reconditioning

COMPANY

Elkrem company was established in 1995. Our mission is „achieving Customer's satisfaction through specializing in complex service in range of special production, hardfacing, spraying and reconditioning ensuring increasing durability of machine parts".

One of our specialization is production and reconditioning of plastifying systems of injection moulding machines and extruders.

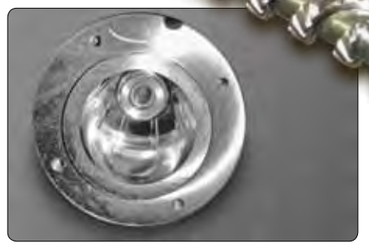
Gazele Biznesu

Award „Business Gazelles"

We offer for Plastics Processing

- nitrided, hardfaced and quenched screws
- nitrided and bimetallic barrels
- backflow locks and mixing valves
- blow nozzles and heads
- segment screws and barrels
- single, twin parallel and conical systems
- measurements at Customer's
- consulting
- reconstruction of technical documentation of plastifying systems etc.
- hardfacing and spraying services increasing durability of machine parts exposed for extreme operating conditions
- transport of plastifying systems

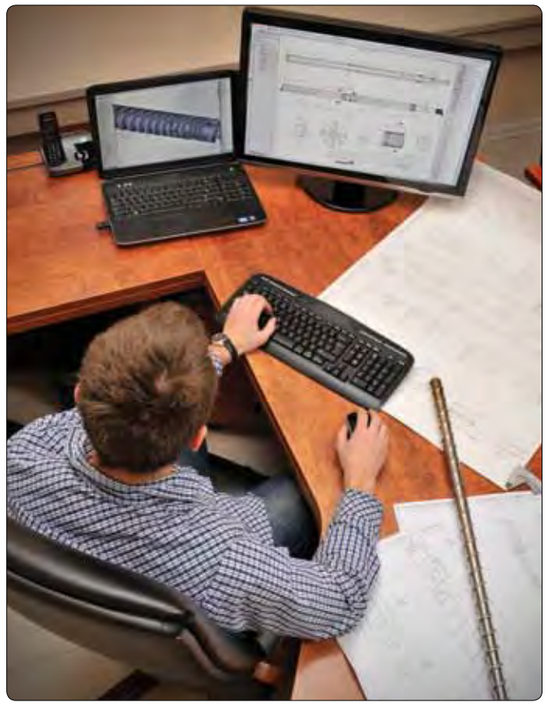
The highest quality of our service is guaranteed by complexity, specialization, professional technical consulting built on long-term experience, the newest technological solutions, immediate reaction on Customer's inquiries, deliveries in accordance with requirements and pre- and aftersale service.

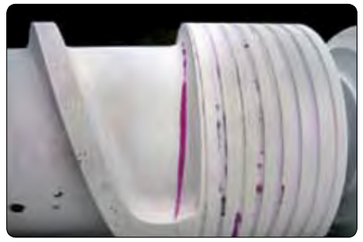


INDIVIDUAL CONSULTING AND INSPECTION

As the expert in branch of plastifying systems we assure our Customers:

- consulting regarding all types of injection moulding machines and extruders
- measurements made at Customer's
- assessment of wear and qualification of screws and barrels to eventual reconditioning
- selection of optimal reconditioning technology depending on processed material and operating conditions of plastifying systems
- optimization of screws geometry
- preparing of technical documentation of all types of plastifying systems
- quality inspection of each new and regenerated part

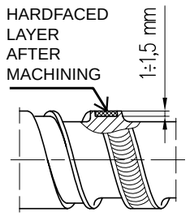




PTA
(PLASMA TRANSFERRED ARC) POWDER HARDFACING

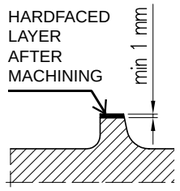
We produce and regenerate plastifying systems using plasma powder hardfacing technology to ensure higher wear resistance, resistance to corrosion and temperature. It allows to maintain plastifying systems for a long time with their main functions what brings considerable economic savings.

We use PTA hardfacing technology applying cobalt and nickel base alloy powders which is the most effective technology for this application.



We apply PTA technology due to its advantages in comparison to other welding processes:

- high-quality deposit offering optimal wear protection
- high density, no porosity and inclusions
- smooth weld surface profile
- high deposition rate
- low penetration and dilution
- constant hardness.



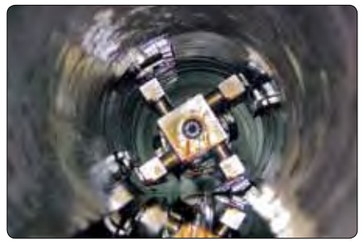
Powders application in the PTA process		
Powder type	Alloy	Nominal Hardness
El-Co 12	Co base	43-45 HRC
El-Co 1	Co base	55-58 HRC
El-Ni 56	Ni base	53-56 HRC
El-Ni 60	Ni base	59-62 HRC
El-TUNG P5060	Tungsten carbide in the matrix NiCrBSi	Hardness of matrix about 60 HRC, Tungsten carbide up to 2 400 HV

HONING

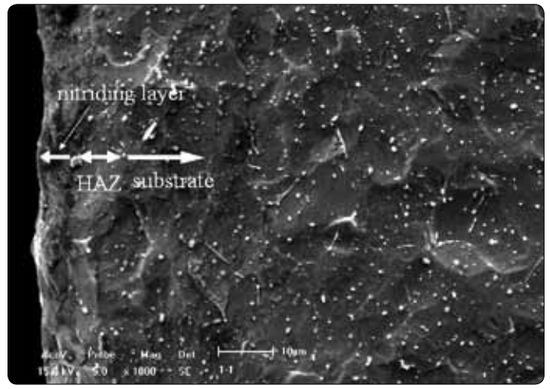
For all barrels and other cylindrical parts we apply honing which is an abrasive machining process that produces a precision surface and smooth holes by using precise CNC honing machine.

We use this process for following dimensions of barrels

- diameter from 20 mm to 1 000 mm
- length up to 10 000 mm

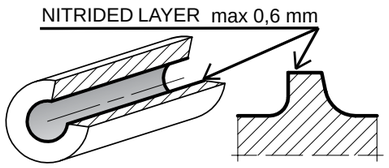


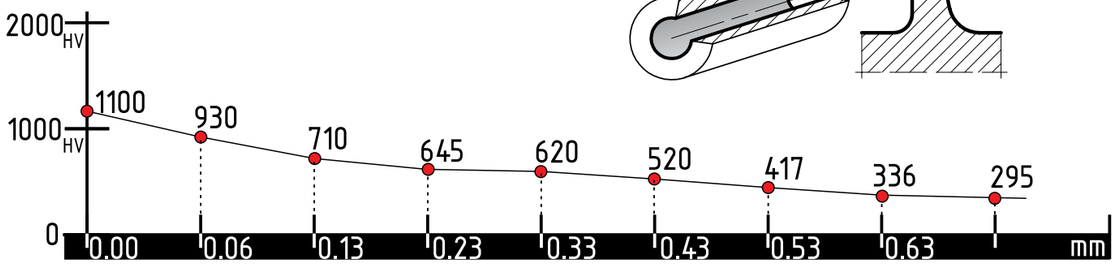
NITRIDING

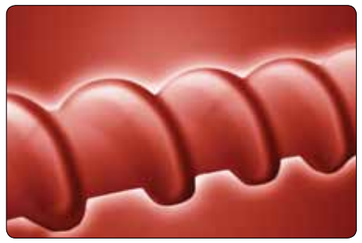


One of the options (beside of through hardening) of heat treatment processes is nitriding of screws, barrels and others parts what allows to increase their wear resistance, hardness and anticorrosion properties.

- the diameter of nitrided parts up to 800 mm
- the length of nitrided parts up to 5 000 mm
- hardness of surface after nitriding up to 1 100 HV
- time of nitriding process up to 100 hours
- depth of nitriding up to 0,6 mm

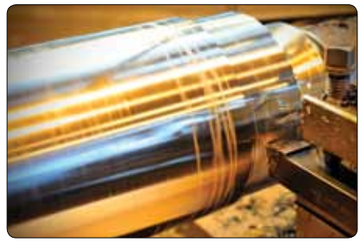






MACHINING

All parts both new and reconditioned are machined at the beginning, in progress and at the end of production or regeneration process by turning, planing, drilling, reaming, semi-bushing, broaching, milling or grinding.
These processes are applied to impart the required shape, dimensions and surface finish to metal parts. Thanks to them especially reconditioned parts after regeneration do not differ from new parts simultaneously assuring optimal properties for operating.
The dimensions of screws and barrels which can be machined at our factory are following: outer diameter up to 250 mm and length up to 10 000 mm.



BIMETALLIC BARRELS

In case of hard material processed by plastifying system we offer bimetallic barrels and screws which due to higher degree of wear resistance (especially abrasion and corrosion resistance under high temperatures and pressure) assure considerably longer service life than that of standard nitrided parts. The thickness of bimetallic layer is from 1 mm to 2,5 mm.
We offer following bimetallic compositions:

- Fe/Cr base alloy with hardness 59-64 HRC - for general applications
- Ni/Cr and Ni/Co base alloy with 55-67 HRC – especially for corrosive applications
- Ni/Cr/Co plus tungsten carbides (about 30%) with hardness of matrix 56-60 HRC and tungsten carbides up to 2 400 HV – especially for extreme wear applications

Elkrem Sp. z o.o.
ul. Starotoruńska 5
87-100 Toruń
Tel: +48 56 65 17 002
Fax: +48 56 65 17 036

e-mail: regeneracja@elkrem.com.pl
www.elkrem.com.pl

GPS: N 53° 01' 09.62"; E 18° 30' 41.36"