



... TOTAL CUSTOMER CARE ...



PRDUCTION AND REGENERATION OF
BARRELS, SCREWS, SCREW-TIPS, SPACERS, VALVES, HEADS, NOZZLES

Al-Da snc **manufacture** and **repair** barrels, screws (maximum length 5 meter and maximum diameter 220mm) and screw-tips for several machinery such as **extruders (plastic and food) and injection molding machines.**

All the machining operations have done at our premises.

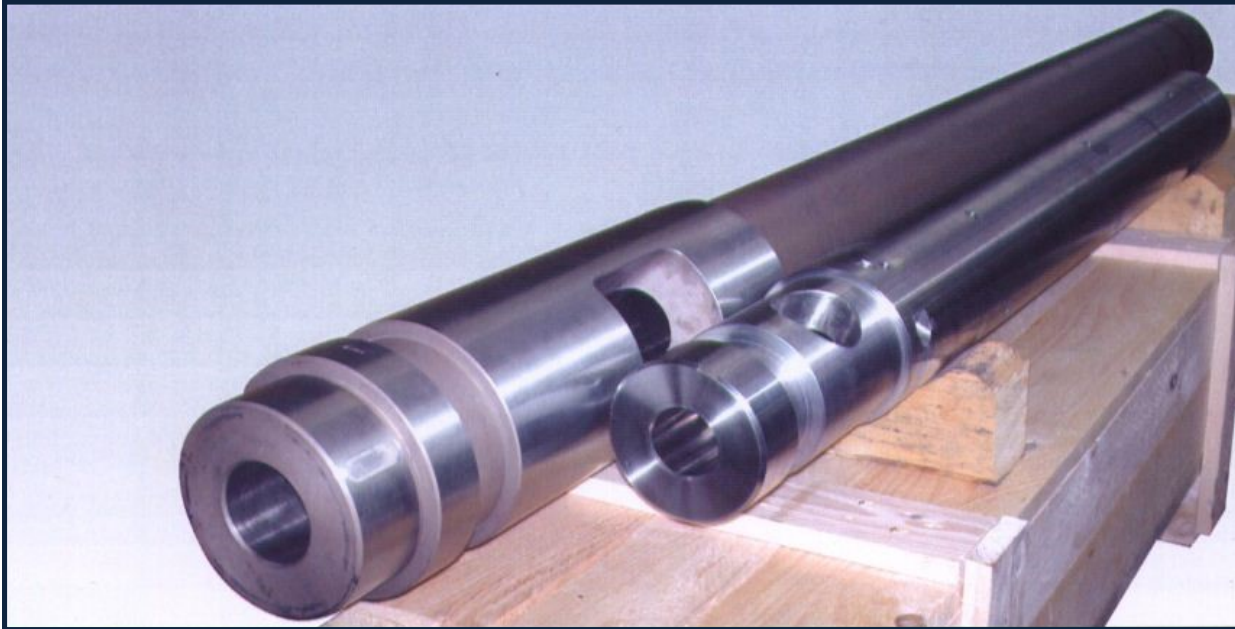


Our production philosophy is focus on client satisfaction.

That is why after 30 years in the market, with a continuous research of new materials and development of technologies more and more enhanced, we are the leader in our field and we can satisfy all customer requests.

Our strength is our flexibility and high level staff that put all its experience and efforts in order to meet client requirement as much as possible by means of direct contact between technical and manufacturing department.

The construction of the barrel can be done following samples or drawings in various materials: standard nitrided, hardened steel (for the Cylinders of small dimensions), bimetallic, where there are materials with high abrasion and corrosion. The choice of the material is in accordance to customer



MATERIAL CHARACTERISTICS:

Standard NITRIDED (41CrAlMo7) 60 HRC

It is a steel, with aluminium, chrome, molybdenum which, during the heat treatment, rise hardness of 1050 HV approx.

This material is suggested where there are not problems of corrosion

- **Minimum delivery time: 15 working days**

Hardened steel (X155CrMoV121) 58-60 HRC

It has a very high percentage of chrome, which gives a good strength and long life

This material is suggested where there are wear problems

- **Minimum delivery time: 30 working days**

- **Life: 2-3 times standard nitrided**

Bimetallic (abrasive and corrosive plastics) 62-69 HRC

There is an internal layer of very hard material, with a thickness of 5mm approx, with a high resistance to corrosion and wear, with an hardness value up to 65 HRC.

This material is suggested where there are corrosion and wear problems

- **Minimum delivery time: 7-10 working weeks**

- **Life: 4-5 times standard nitrided**

As per the barrel, screw manufacturing can be done following samples or drawings in various materials, with the possibility to make different profiles based on the material to be used.



MATERIALI CHARACTERISTICS:

Standard nitrided (41CrAlMo7) 60 HRC

It is a steel, with aluminium, chrome, molybdenum which, during the heat treatment, create **nitridi** very strong, which rise hardness of 1050 HV approx.

This material is suggested where there are not problems of corrosion and wear.

- **Minimum delivery time: 4 working weeks**

Tempered steel (X155CrMoV121) 58-60 HRC

It has a very high percentage of chrome, which gives a good strength and long life

This material is suggested where there are wear problems.

- **Minimum delivery time: 5 working weeks**

- **Life: 2-3 times standard nitrided**

ISOTRIX hardened 60-62 HRC

This hardened steel has an high percentage of chrome, tungsten, vanadium which guarantee a very high resistance to wear and corrosion

These characteristics can give a life longer than a plasticized screw build in X155CrMoV121

- **Minimum delivery time: 6 working weeks**

- **Life: 4-5 times standard nitrided**

(X155CrMoV121) with CLIN-NIVE 1200 Vichers

CLIN-NIVE is an heat treatment for italian market only (for plastic stamping) which increase screw performances in terms of resistance to abrasive and corrosive materials with no impact in cost

- **Minimum delivery time: 6 working weeks**

INSPECTION

As soon as the used barrel is received, it is carried out a complete dimensional check (inner bore, threading conditions, cooling circuit, thermocouple holes condition, etc) in order to provide an offer

REPAIR OF BARREL IN STANDARD NITRIDED OR HARDENED STEEL:

Basic purpose is to restore the correct tolerance between barrel, screw and screw-tip in order to bring back the moulding to the original level.

The overlay (partial or total) is carried out in X155CrV121.

TOTAL OVERLAY (on all the length):

In this case we provide an offer for renewing or for a new barrel, in standard nitrided or Bimetal, in order to allow the customer to choose the more suitable solution.

REPAIR OF BIMETALLIC BARRELS:

If barrels are in Bimetallic material, the only way to proceed is to increase the inner bore with the renewing / supply of the screw and of a series of valves (interchangeable with the existing) suitable for the cylinder. In such case the feasibility of this type of renewing is based on the material.

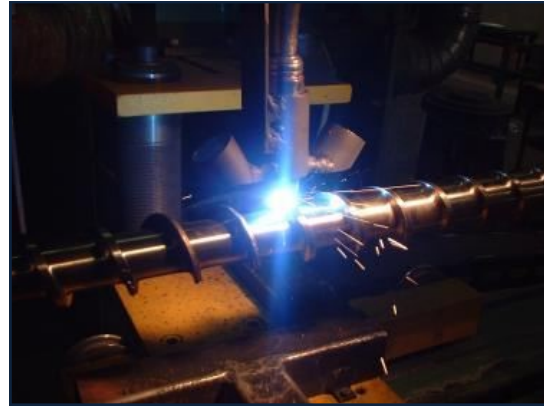
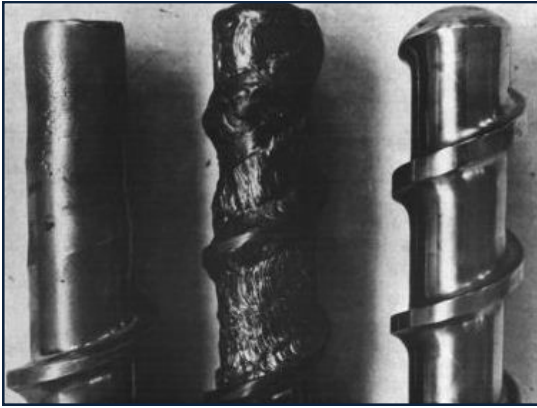
**CARATTERISTICHE MATERIALI:****Bussole temprate a cuore (X155CrMoV121)**

La caratteristica di questo acciaio da tempra è quella di possedere un'alta percentuale di cromo, che ne determina una buona tenacità e un'elevata resistenza all'usura.

Questo materiale viene consigliato a che ha **notevoli problemi di usura**.

- **Minimum delivery time: 30 days**

- **Life: 2-3 times standard nitrided**



As for the cylinder, as soon as we receive the used screw they we carry out the following checks:

- crest diameter
- thread conditions
- coupling conditions
- kernel usury and coupling diameter

The scope of such verifications is to estimate the operations to carry out in order to bring the screw back to the original level, operating on the wearied parts, ruined or broken off during the use. The **restoration** of the original diameter, essential condition to restore the capability to transport the plastic material to the original level, is done by means of welding material on the crest by means of automatic machines that assure a homogenous welding and absence of blows.

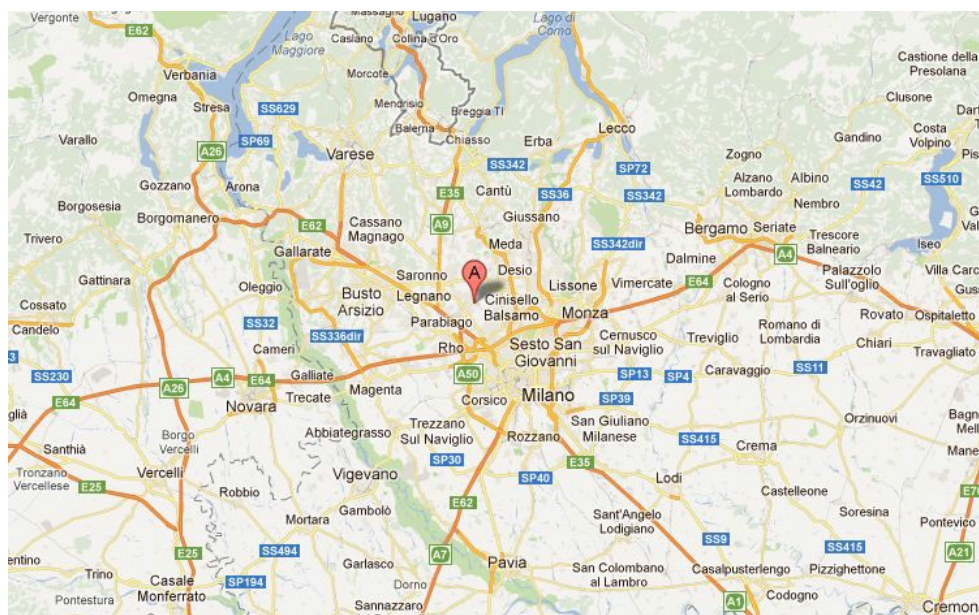
After that there is a finishing and final polishing, which assure a final rugosity lower then 0,06RA. For the repair of the screw the proposed materials are many and the choice is based on customer requirements.

MOST USED WELDED ALLOYS:

OVERLAY	HARDNESS HRC	ABRASIVE PLASTICS	CORROSIVE PLASTICS
STELLITE GR.1	50 - 55	★★★★	★★★
STELLITE GR.12	45 - 48	★★★	★★★
CASTOTIG 5	58 - 62	★★★★★	★★★
BASE NCEL 56	52 - 55	★★★★	★★★★★



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