



EXTRUDER TECHNOLOGY



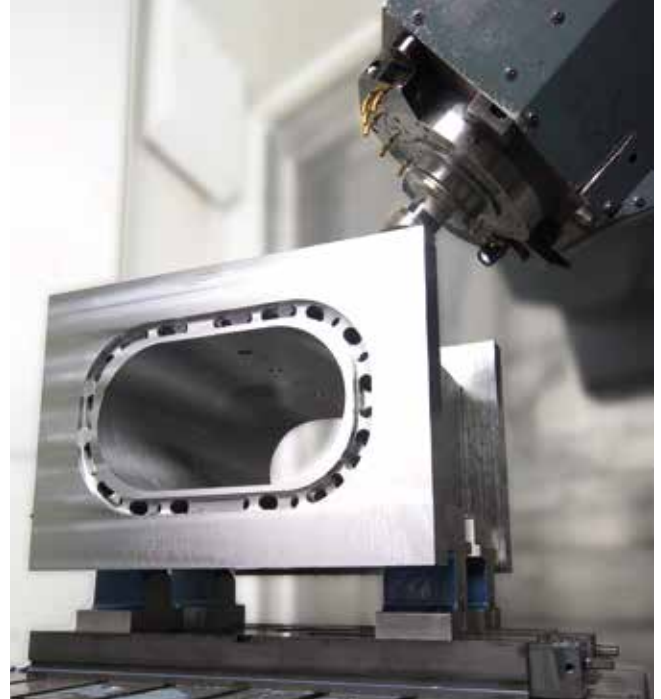
## Extruder Technology

### Wear parts which set standards

For decades, C.A.PICARD has been counted among the world's best manufacturers of wear parts for specialist industries. Our knowledge of materials is based on our history - since the founding of our company in 1876, we have been ideally combining experience, know-how and development. The requirements on our production have ensured our on-going development. Our highly-qualified employees use state-of-the-art machining procedures. The results speak for themselves: We produce precise and highly wear-resistant parts and equipment, which meet the highest of demands.



Experience. Know-how. Development.  
The three pillars for proficiency and success.



The OEM standard is a matter of course of us.  
We demand precision.

### Spare and wear parts for:

- Twin screw extruders
- Single screw extruders (segmented)

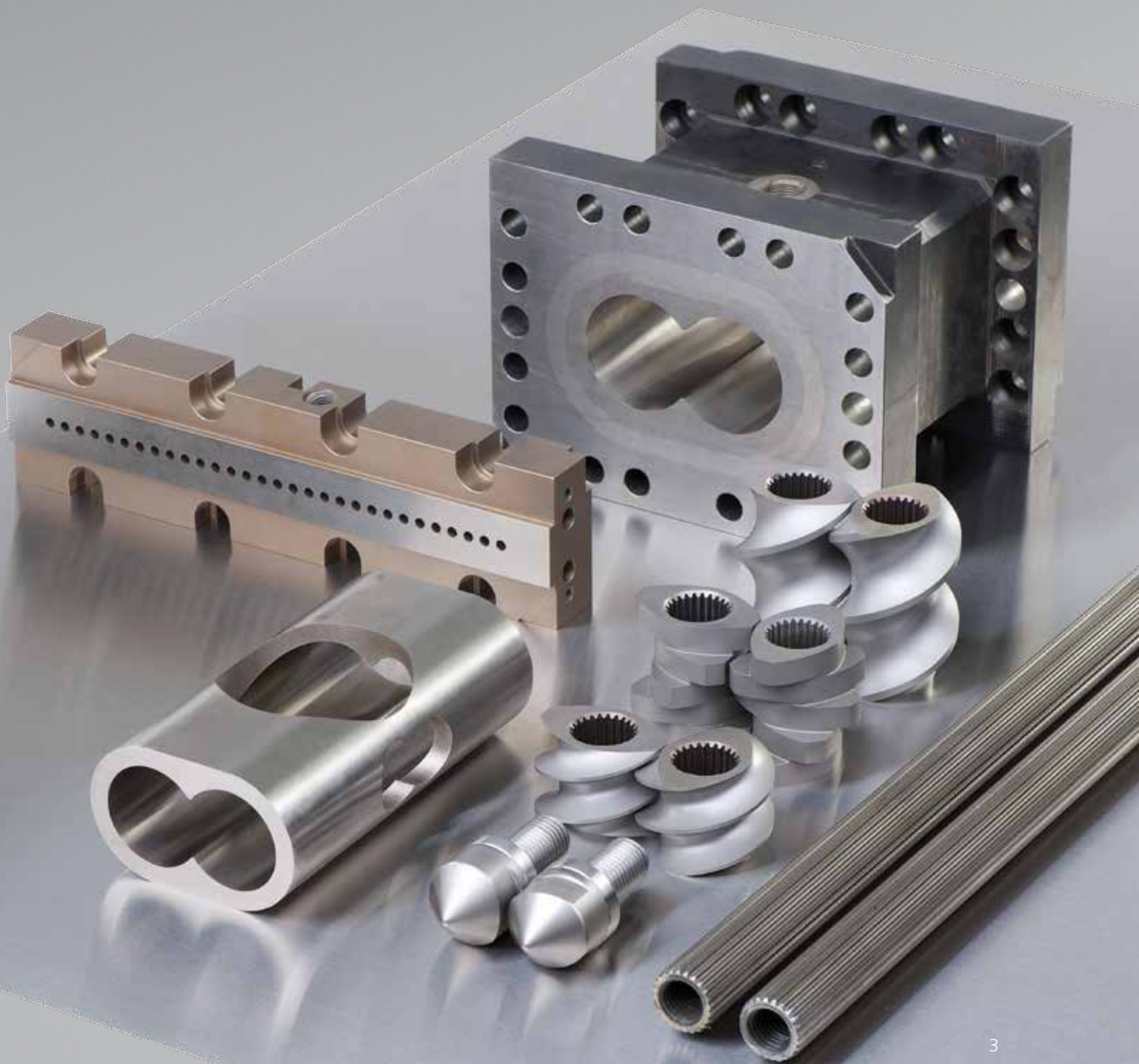
### Components:

- Screw elements
- Kneading elements
- Mixing elements
- Shafts
- Barrels (solid / liner)
- Liners
- Die plates

### Services:

- Barrel wear measurement
- Dismantling service
- Barrel service
- Material consulting
- Process optimisation

**Innovation generates progress.  
Technology creates quality.  
For every need.  
In every dimension.**







**We understand your requirements.  
And know how high they are.**

Whether in chemistry, plastics, food, animal feed or pharmacy: extruders can withstand a great deal on a daily basis. They are subjected to extreme temperatures. They can withstand high pressures. They are exposed to various types of wear and tear.

At the same time, extruders must always perform at their highest level.

We are very well acquainted with the varying applications of extruder technology and share your knowledge about product processing. By sharing this knowledge, we are able to design the perfect wear parts in accordance with your requirements. When using our materials and technologies, we have only one thing in mind: to increase your product quality and extend the life cycle of the wear parts.



**Branches and industries:**

- Plastics
- Food
- Powder coating
- Chemistry
- Petrochemistry
- Pharmacy
- Animal feed
- Industrial ceramics
- ...

**Extruder types:**

- Andritz
- APV
- Bühler
- Clextral
- Coperion
- ICMA
- JSW
- Keya
- Kobe
- KraussMaffei Berstorff
- Lantai
- Leistritz
- Maris
- OMC
- Sprout Matador
- Theysohn
- Toshiba
- Wenger
- ...



**You have the requirements. We have the answers.  
C.A.PICARD produces wear parts suitable for  
almost all well-known extruders.**

## Screw elements

### Optimum adjustment – low-cost replacement

Twin screw extruders are modularly constructed. This allows the screw configuration to be exactly adjusted to the process task in hand. Should a screw element need to be replaced, then this can be done quickly and cost-effectively.

The screw elements are positioned on a shaft. They fulfil a variety of tasks in the manufacturing process.

Our target for you is: less maintenance, longer life cycle.

Incidentally: more than 15,000 screw elements are now available ex-stock.

### Building types:

- Conveying elements
- Reverse conveying elements
- Kneading blocks and discs
- Mixing elements
- Transition elements
- Undercut elements
- Side feeder elements
- Single, double, triple lobe
- Diameter 12 to 350 mm



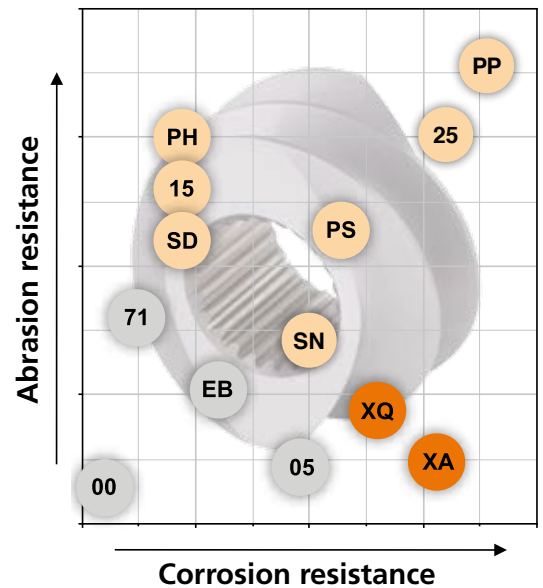


## Material portfolio

Code	Material
00	Nitrided steel
05	Hardened stainless steel
71	Tool steel
EB	Nitrided stainless steel
SN	Stainless tool steel
SD	PM tool steel
15	PM-HIP compound
PH	PM-HIP compound
PS	PM-HIP compound
25	PM-HIP compound
PP	PM-HIP compound
XA	Stainless with hardfaced flights
XQ	Stainless with hardfaced flights

Hardness
900-1050 HV0,5
48-50 HRC
58-60 HRC
900-1050 HV
58-60 HRC
61-64 HRC
61-65 HRC
64-66 HRC
56-60 HRC
56-60 HRC
62-65 HRC
38-42 HRC
34-40 HRC

The mentioned categories are based on C.A.PICARD's experience, material analyses and information provided by customers.



■ PM-HIP  
■ Steel  
■ Stainless with hardfaced flights

## Shafts

### Maximum transmission with high load capacities

The shafts transmit the torque of the drive to the screw elements - and therefore to the entire process area. Here, it depends on the maximum torque transmission and the highest load capacity. Using state-of-the-art materials technology, we are able to achieve a strength which enables you to optimally use your twin screw extruder.

### Building types:

- One-piece, multi-parts
- Diameter 10 to 180 mm
- Length 500 to 6000 mm
- Optional with or without internal cooling

### Material portfolio:

Code	Type
DF	Hot-forming steel
DT	Heat treated steel
EG	Hardened stainless steel
D5	Special high-alloy steel
D4	Heat treated steel



## Barrels and barrel liners

### Components, which are particularly subject to high stresses

The barrels and barrel liners are especially valuable components in the processing of the twin screw extruder. They adopt a variety of tasks and are therefore subject to high levels of stress. Since corrosion and abrasion have an impact on them, a liner is often incorporated into the barrel. This has a great advantage: Should the wearing limit be reached and a replacement be required, then only the barrel liner needs to be replaced.



### Building types:

- Feed barrels
- Closed barrels
- Side-feed barrels
- Venting barrels
- Combi barrels
- Bore system for temperature control
- Wear liners
- Thermocoupling bores
- Injection bores
- Degassing inlets
- Plugs
- 8-bore diameter 12 to 170

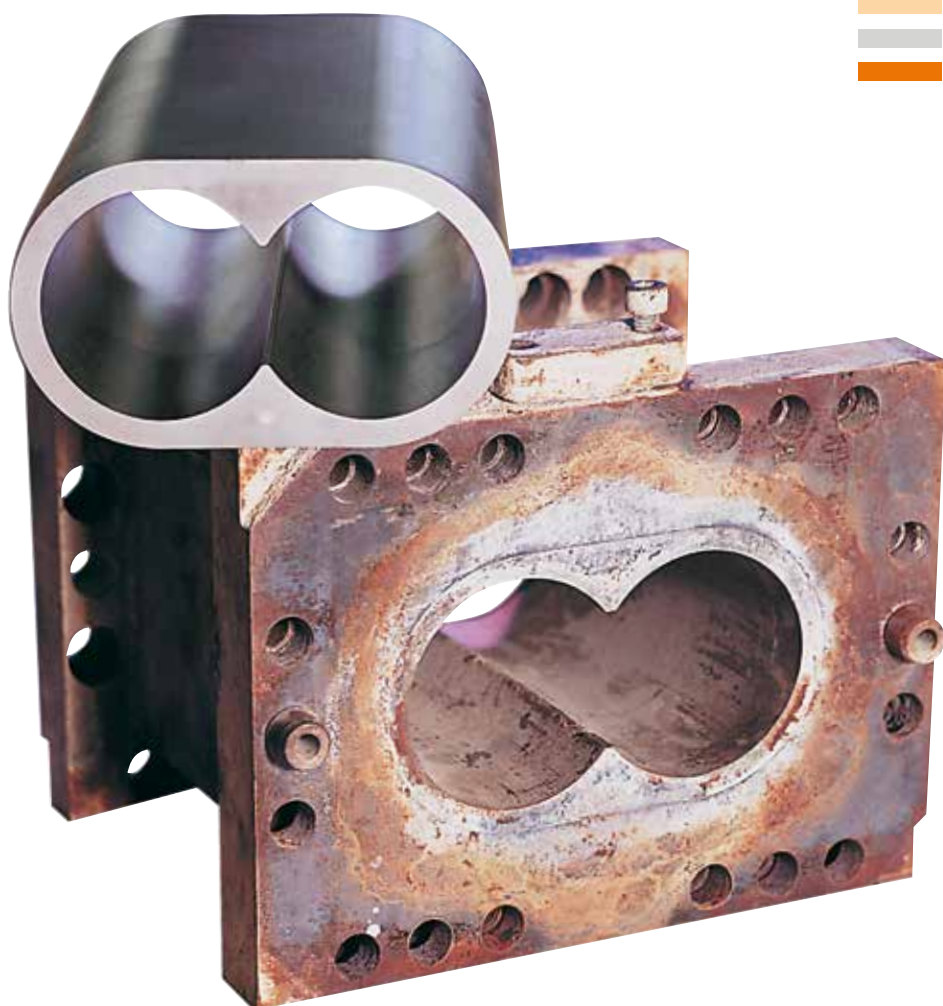
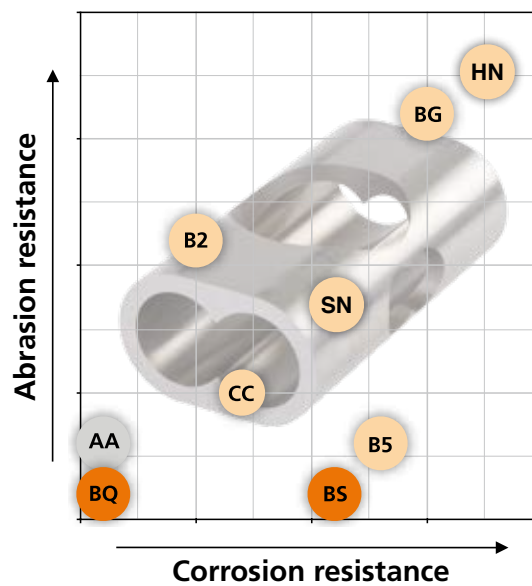




## Material portfolio

Code	Type	Material	Hardness
AA	Solid	Nitrided steel	750-850 HV0,5
BG	Liner	PM-HIP	59-62 HRC
B2	Liner	Tool steel	61-64 HRC
B5	Liner	Hardened stainless steel	48-50 HRC
SN	Liner	Stainless tool steel	58-60 HRC
HN	Solid	HIP compound steel	58-60 HRC
CC	Liner	Tool steel	55-58 HRC

The mentioned categories are based on C.A.PICARD's experience, material analyses and information provided by customers.



A consistent barrel repair service saves on costs and resources.

## Barrel wear measurement

**We measure directly on the twin screw extruder and can therefore detect any wear in the barrel at an early stage.**

Those who want to remain permanently productive have to detect wears and tears at an early stage. We are able to inspect the condition of the integrated barrels directly on your extruder line with our wear measurement service. The casing will not be disassembled for this - thus saving you valuable time and maximising the benefits.

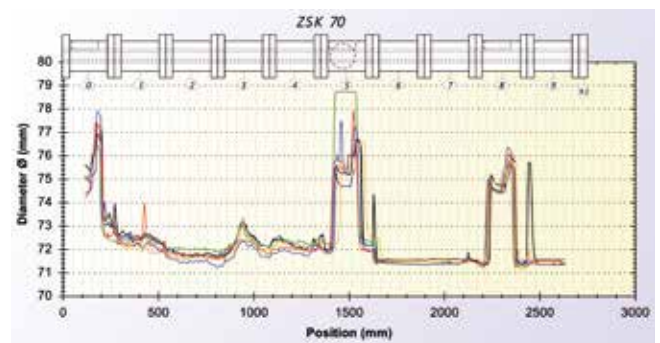
Our inspections ensure your productivity. If you detect any wears and tears, you can procure replacement parts in good time. Repairs can therefore be planned and calculated.

### The benefits at a glance:

- Quick, cost-effective and on-site
- Preventive maintenance allows for reliable production
- Measurement and analysis at a fixed price
- All measurement results are documented.



Measurement directly on the extruder line.  
Measurement range of the sensors:  
47 - 133 mm in diameter.



Example of measuring result ZSK 70,  
diameter 71.3 mm

## Dismantling service

### Your screw elements are in professional hands – with the C.A.PICARD dismantling service.

Dismantling the individual screw elements from the shaft is not always easy once they have been used in the production process. Product residues can congeal between the screw elements and the shaft. A great deal of energy is required to remove them. You can avoid this by using our quick and cost-effective dismantling service.

### The benefits at a glance:

- Reduced risk of injury to employees in comparison to a manual change
- Less damage to the screw elements and the shaft as a result of mechanical or thermal influences
- Direct inspection of the current state of wear of the entire configuration



## FD system

### The alternative – our FD system for twin screw extruders from 25 to 135 mm. Simple, safe and mobile.

Would you like to remove the screw elements yourself and ensure absolutely no risk? No problem: by using the hydraulic FD system of C.A.PICARD, screw elements directly on the extruder can be dismantled from the shaft.

### The benefits at a glance:

- Time-saving change of the wear parts directly on the extruder
- Reduced risk of injury
- Reduction in damage
- The purchase price has paid off.



Safe removal of the screw elements using the FD system from C.A.PICARD. Saving you time and money.





[www.capicard.de](http://www.capicard.de)

C.A. Picard Far East Ltd.  
20 Dai Fu Street  
Tai Po Industrial Estate  
Hong Kong

C.A. Picard (Jiangmen) Co., Ltd.  
Erheshan Ind. Zone, Baisha, West District  
Jiangmen, P.R.C., Guangdong Province  
Postcode: 529000, China

C.A. Picard Plastic (Jiangmen PRC) Co., Ltd.  
Zhong Xin Road 1#, Jiaotou No. 1  
Industrial Park, Jianghai Estate, Jiangmen P.R.C.,  
Guangdong Province, Postcode: 529040, China

C.A. Picard (Suzhou) Representative Office  
Room 1709, 17th Floor, Block 3  
Suzhou International Science and Technology Building  
No. 112 South YingChun Road, Chengnan Street  
Wuzhong Economic Development Zone  
Suzhou, Jiangsu Province, P.R.C.  
Postcode: 215128, China

Carl Aug. Picard GmbH  
Hasteraue 9  
42857 Remscheid  
Germany

C.A. Picard, Inc.  
305 Hill Brady Road  
Battle Creek, MI 49037  
USA

C.A. Picard Japan Co., Ltd.  
Ishii Bldg. 2F, 3-12-70 Kamiaoki  
Kawaguchi City  
Saitama 333-0845, Japan

Carl Aug. Picard GmbH  
Hans-Georg-Weiss-Str. 14  
52156 Monschau-Imgenbroich  
Germany

C.A. Picard, Inc.  
1206 E.Broad St.  
Elyria, OH 44035  
USA

C.A. Picard Japan Co., Ltd.  
Osaka Branch Office, 5-17-22 Mitejima,  
Nishi Yodogawa Ku  
Osaka, 555-0012, Japan