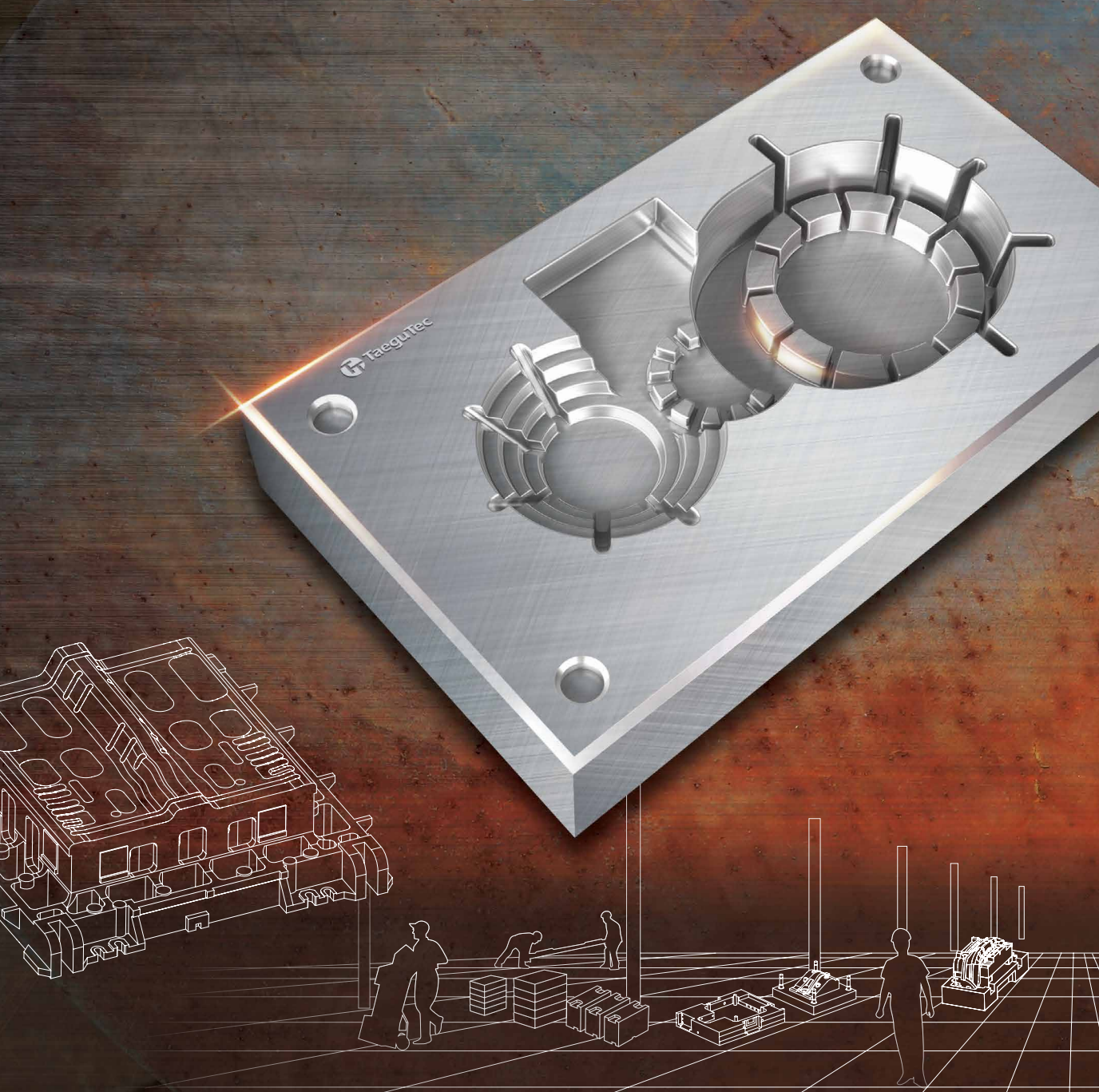




# MOLD & DIE

INDUSTRY

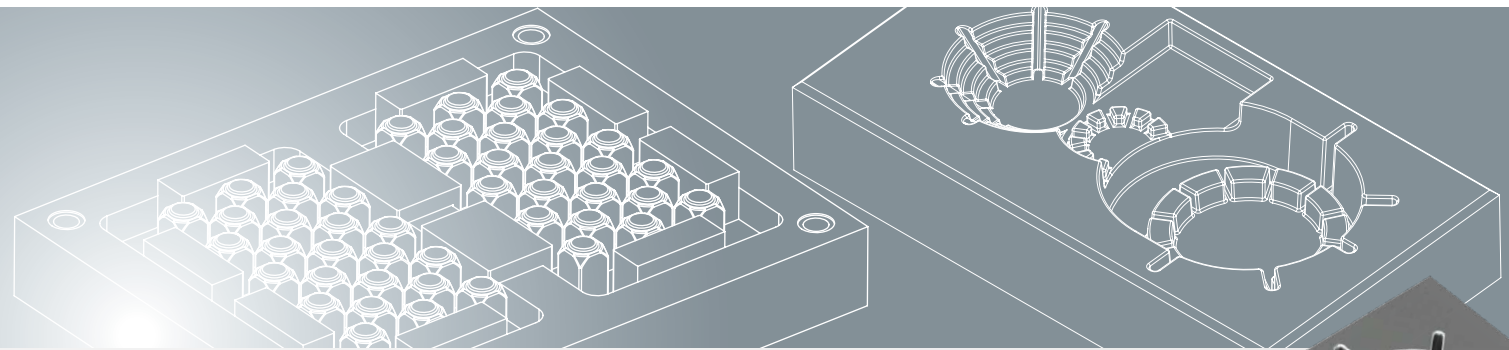




# MOLD & DIE

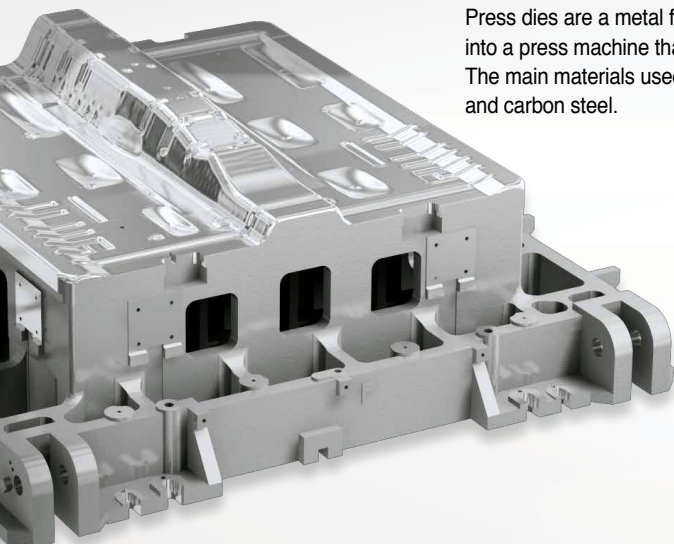
According to a recent survey, the ratio of the mold type tooling produced currently stands at: 41% for plastic injection molds, 40% press dies, 5% die casting molds, 4% forging dies, 3% rubber molds, 3% metal molds and powder metallurgy molds and glass molds accounting for 2% each.

Most mold companies require cutting tools that can cater for high speed machining to deliver a competitive advantage for the end users new products. Furthermore, where the industry trend never ceases to introduce process-intensive, high speed and precision equipment to accommodate the ever demanding customers, TaeguTec supplies a variety of tools for roughing, semi-finishing and finish machining that will satisfy any mold material and the operating conditions of the machine tools.



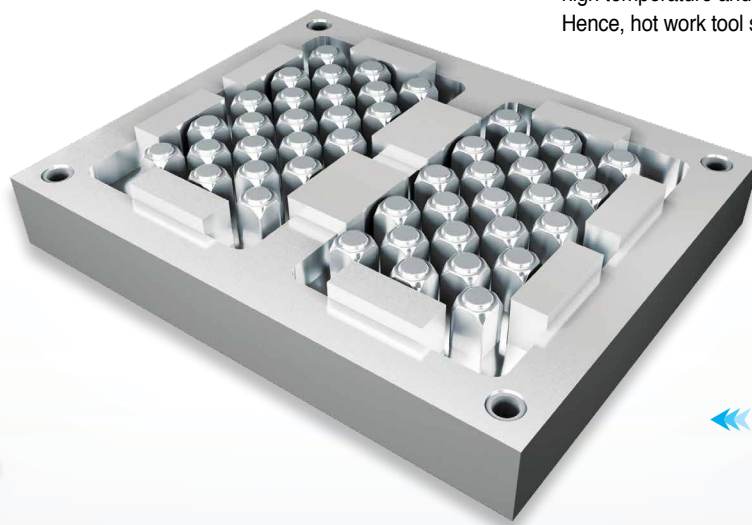
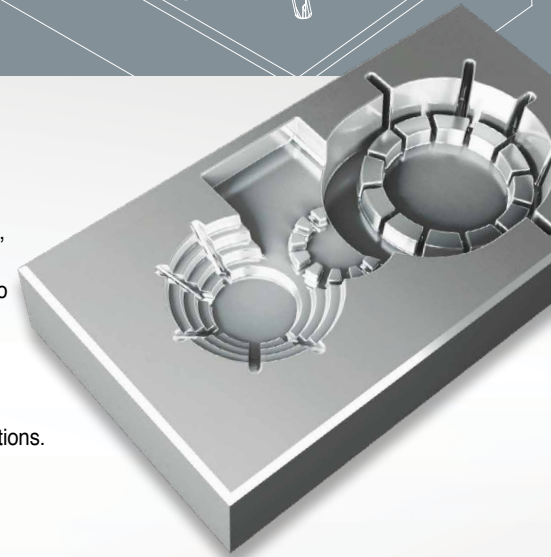
## «« PRESS DIE

Press dies are a metal forming process that installs special mold tools into a press machine that works in a linear reciprocating movement. The main materials used in press dies are grey cast iron, tool steel and carbon steel.



## DIE CASTING MOLD »»

Die casting molds are made from low melting point metal alloys, such as aluminum, zinc and magnesium. With high pressure, the materials are injected into a precision shaped die, in order to make thin and light-weight precision metal molding. Die casting mold materials require exceptional strength, toughness and hardness to bear the severe conditions of high temperature and high pressure. Hence, hot work tool steels are used among the usual compositions.



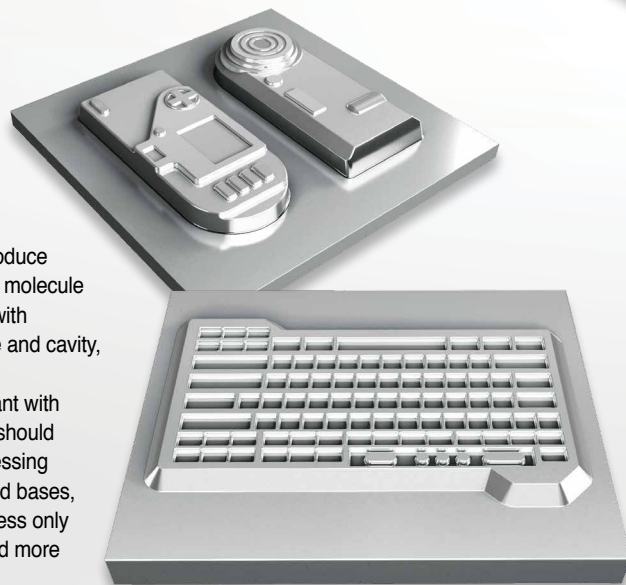
## RUBBER MOLD

Rubber molding is the process of putting rubber and synthetic rubber materials into a mold and developing the shape of the rubber workpiece by heating and pressing, a process similar to plastic compression molding. The materials for molds may depend upon the rubber materials, quality and quantity produced. If the production run is a small quantity, the structural carbon steel can be applied. In the case of producing uniform products for a longer period of time, hardened steel will be utilized as its durability is improved by the forging process.

## INJECTION MOLD »»

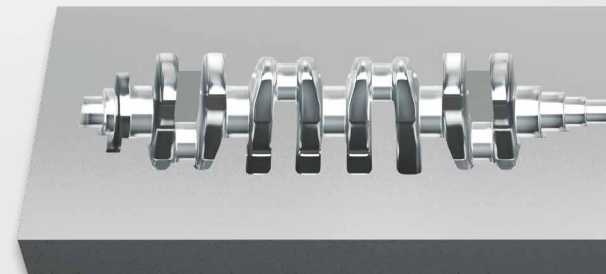
Injection molds are another form of die that can produce plastic molds. Initially, hot melt (or half melt) macro molecule (high polymer plastic resin) materials are injected with high pressure to an empty space between the core and cavity, and then cooled to gain the desired plastic mold.

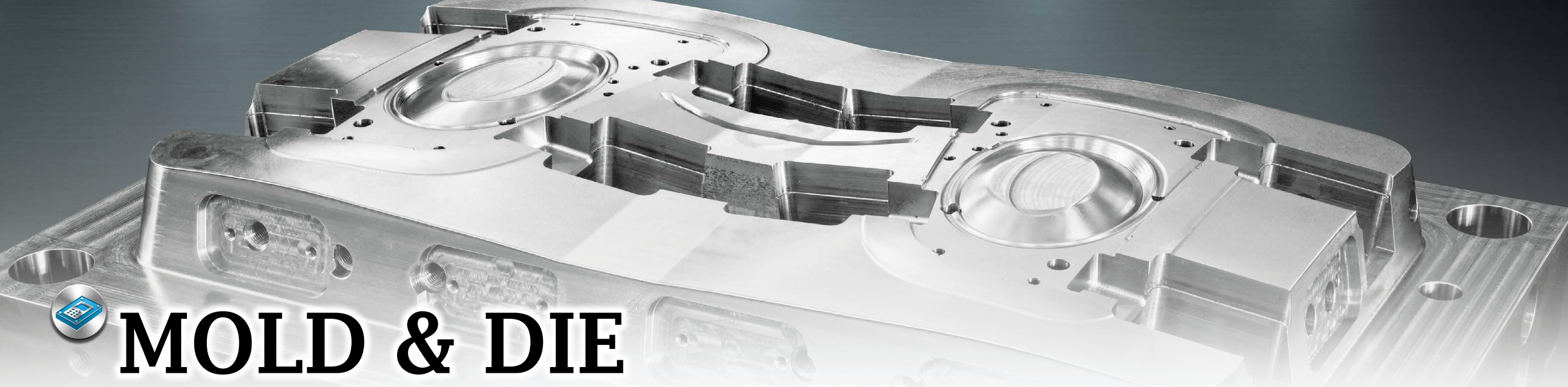
The injection mold materials should be heat resistant with a low coefficient of thermal expansion. The molds should be uncomplicated for machining and thermal processing aspects. The composition of the molds include mold bases, a core and additional parts. Until recently, the process only used plastics but now mold steels are being applied more commonly.



## FORGING DIE »»

Forging dies are a mold process to shape a workpiece by hammering or pressing when the workpiece is cold or heated. Most forging, especially sizable dies, are hot forged, hence, forging die materials must have a strong thermal and mechanical resistance. tool steel and die steel, which contain chromium, nickel, molybdenum and vanadium, are the main components of forging materials. In order to make forging dies, the forging materials are machined into a desired shape after being cast or forged and then worked through to the final process, surface finishing.

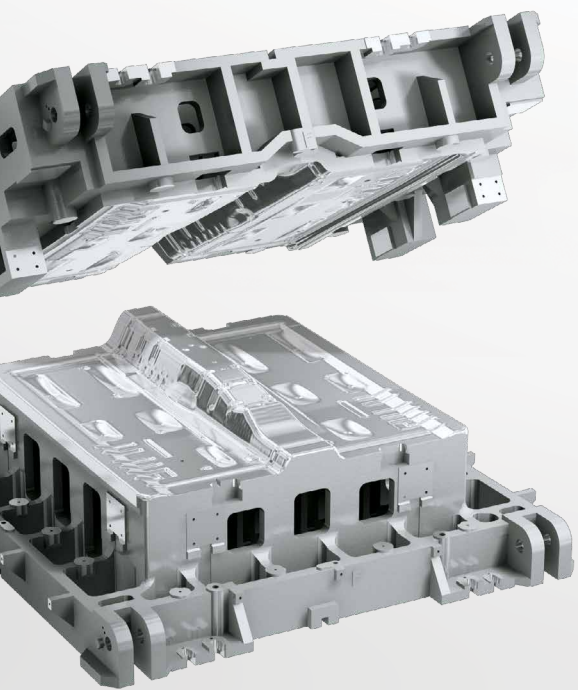




# MOLD & DIE

Press Die

Injection Mold



Bottom Face Milling — 6-7



Roughing & Semi-finishing — 8-9



Finishing — 10-11



Peripheral Milling — 12-13



Holemaking — 14-15



Roughing — 16-17



Semi-finishing & Finishing — 18-19



Holemaking — 20-21

## Tooling System

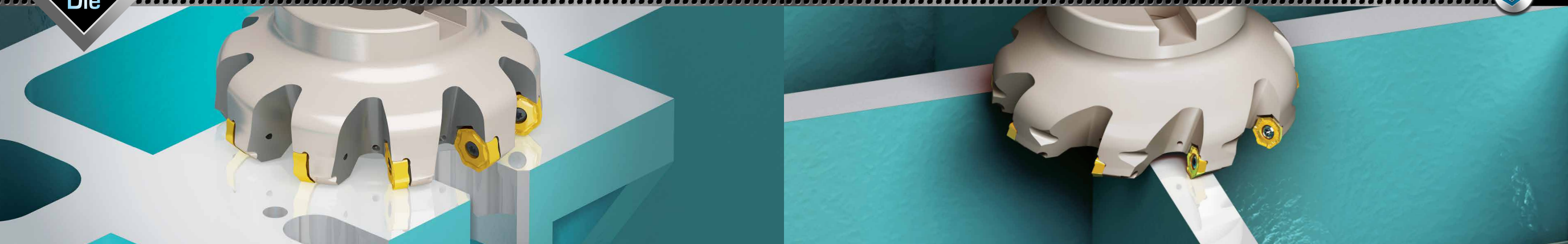


Tooling System — 22-23



# Bottom Face Milling

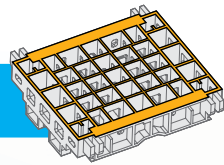
Press Die



## Bottom face milling

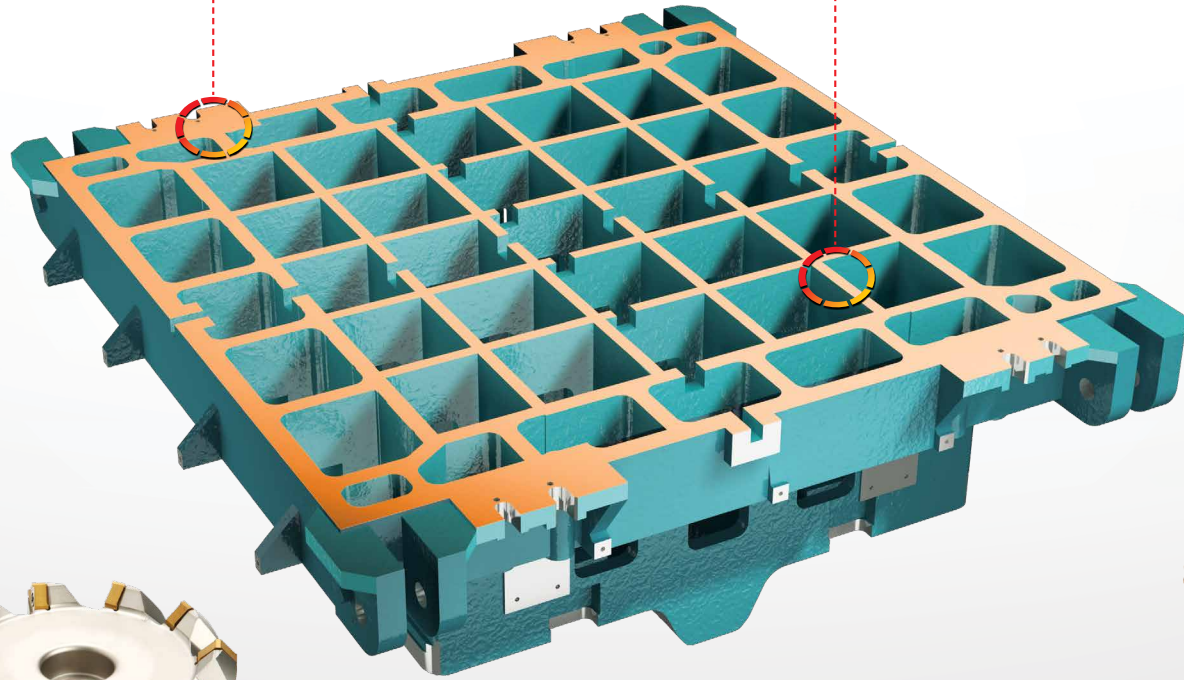
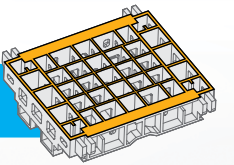
### CHASE<sup>2</sup> HEPTA

Economical solution for face machining of cast iron and steel



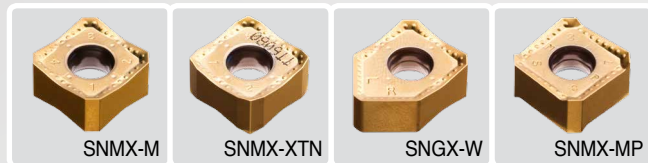
### CHASE HEPTA

A new positive multi corners milling line



### CHASE<sup>2</sup> QUAD

Double sided insert for 45°/75° cutters



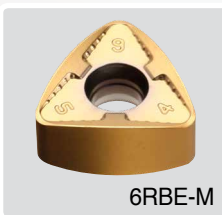
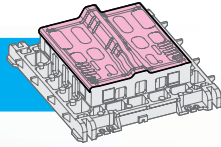
# Roughing & Semi-finishing



➤ Rough & Semi-finish profile milling

**CHASE<sup>2</sup>BALL**

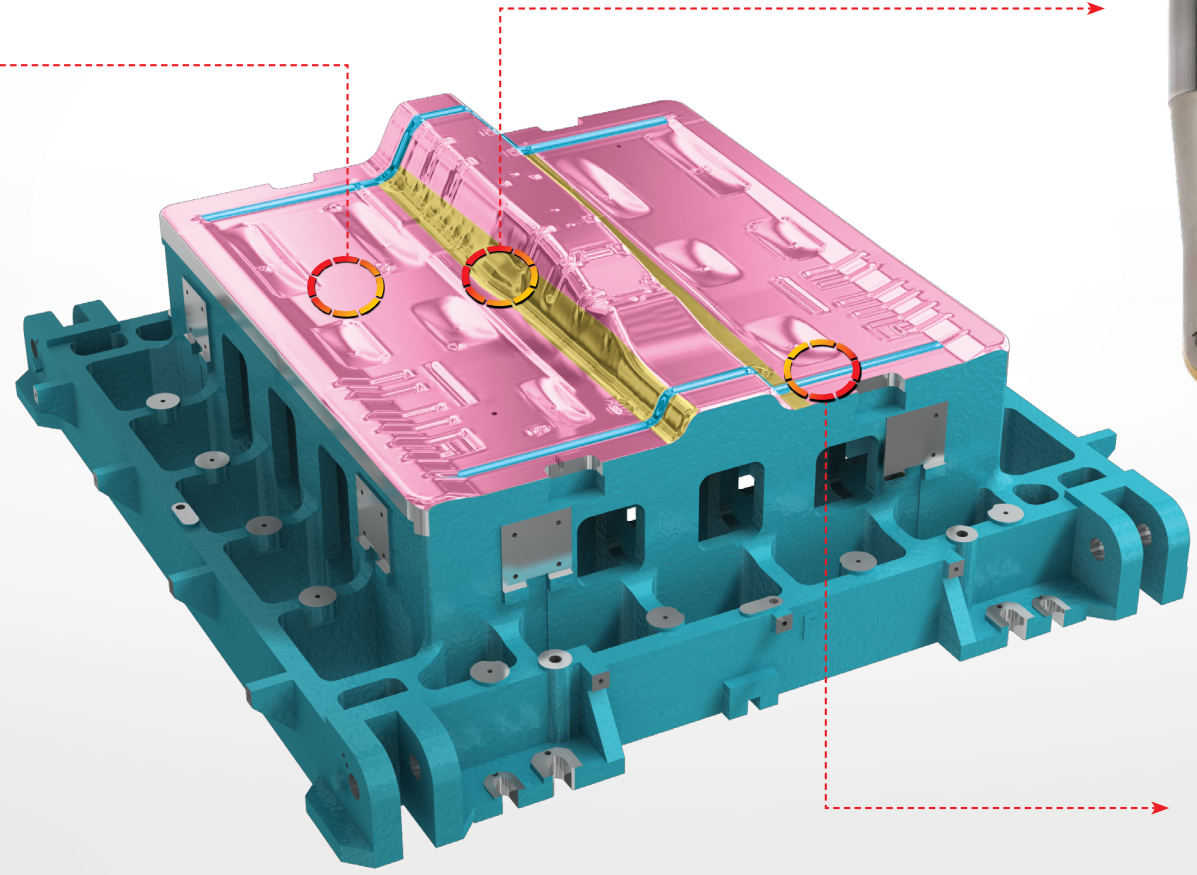
Optimized double sided inserts for rough milling



6RBE-M

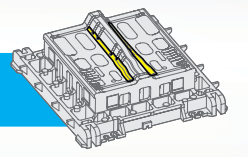


➤ Copy milling



**DUETBALL**

An excellent choice for rough & semi-finish profile milling



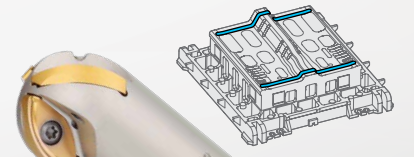
2FB...M



2FB...ML

**TRIOBALL**

Triple feed rates for roughing and semi-roughing



3FB C-M



3FB P-M

# Finishing

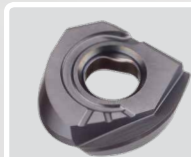
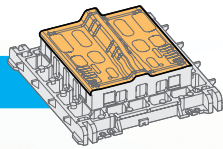
Press Die



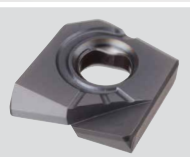
## ➤ Semi-finishing & Finishing

**FINEBALL**

Accurate profile machining



NFB -

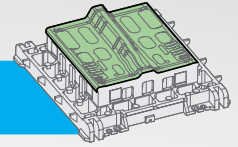


NFR -

## ➤ Finishing & Re-finishing

**HARDMILL**

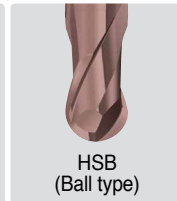
High performance solid carbide end mill for hardened steel



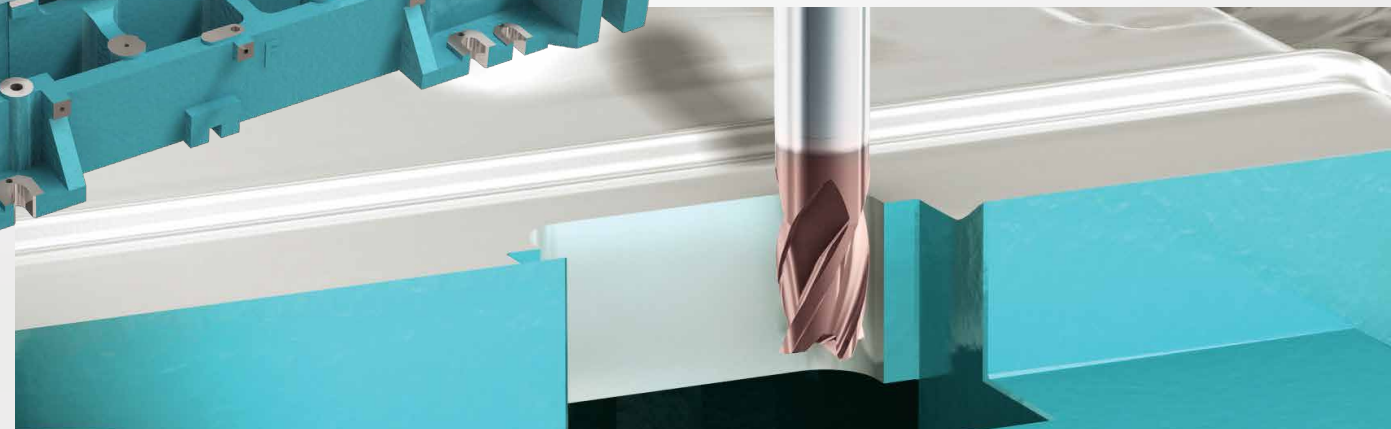
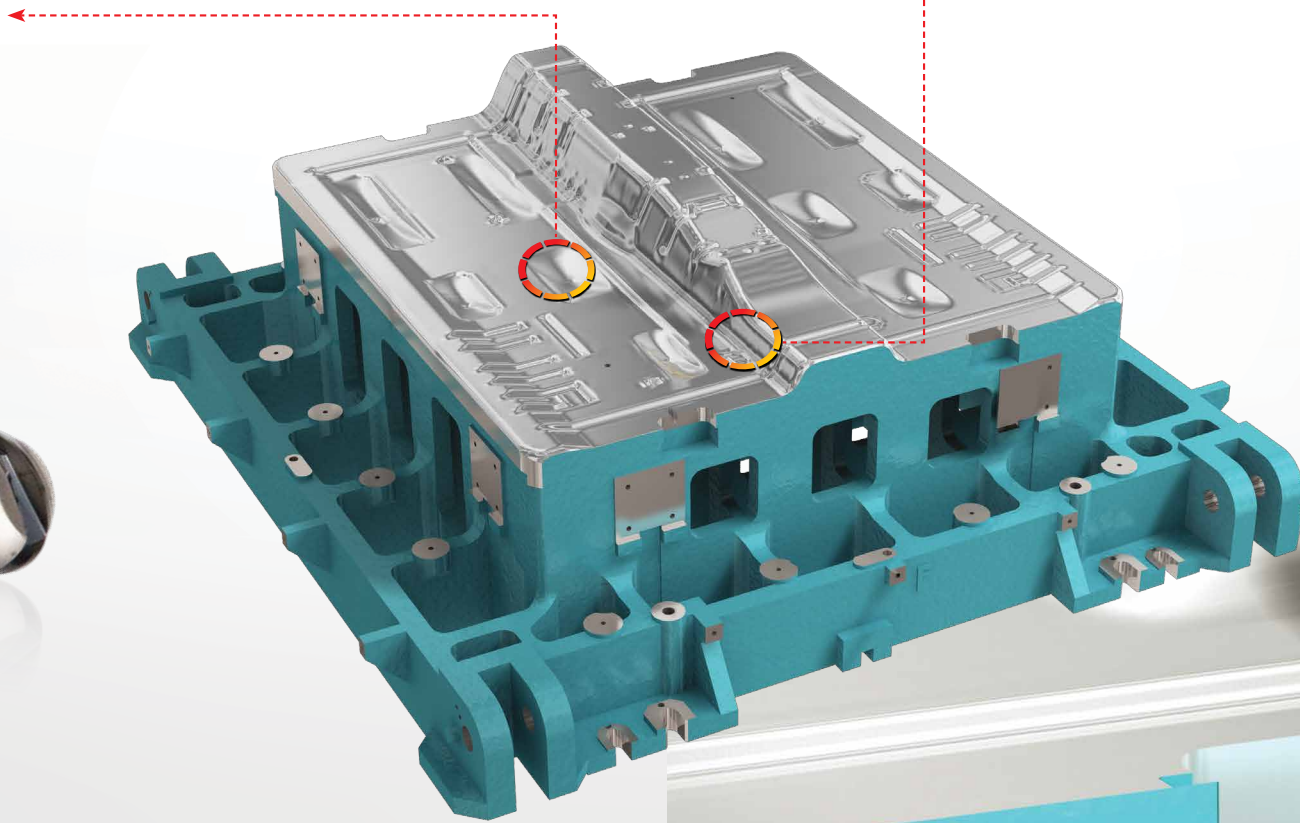
HSF  
(Flat type)



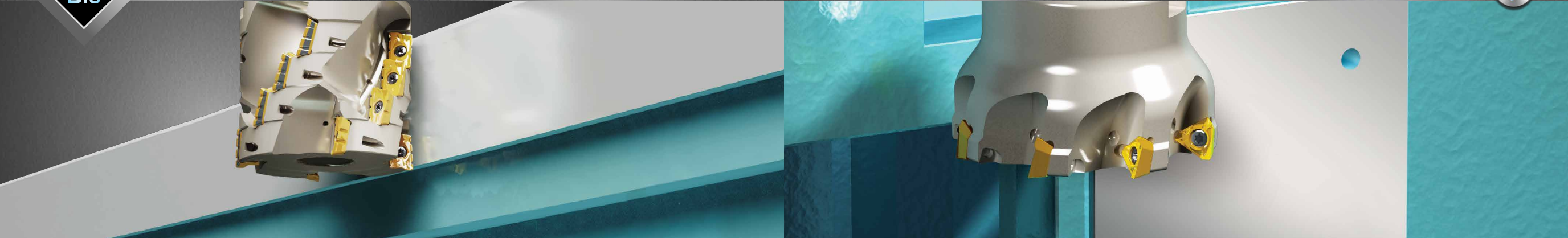
HSR  
(Corner 'R' type)



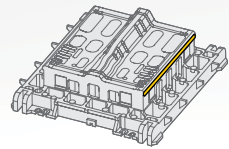
HSB  
(Ball type)



# Peripheral Milling



## Peripheral milling



### MILL-RUSH

High productivity milling solution

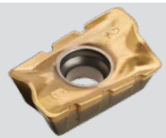


3PKT-SM

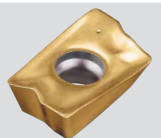


### CHASEMILL

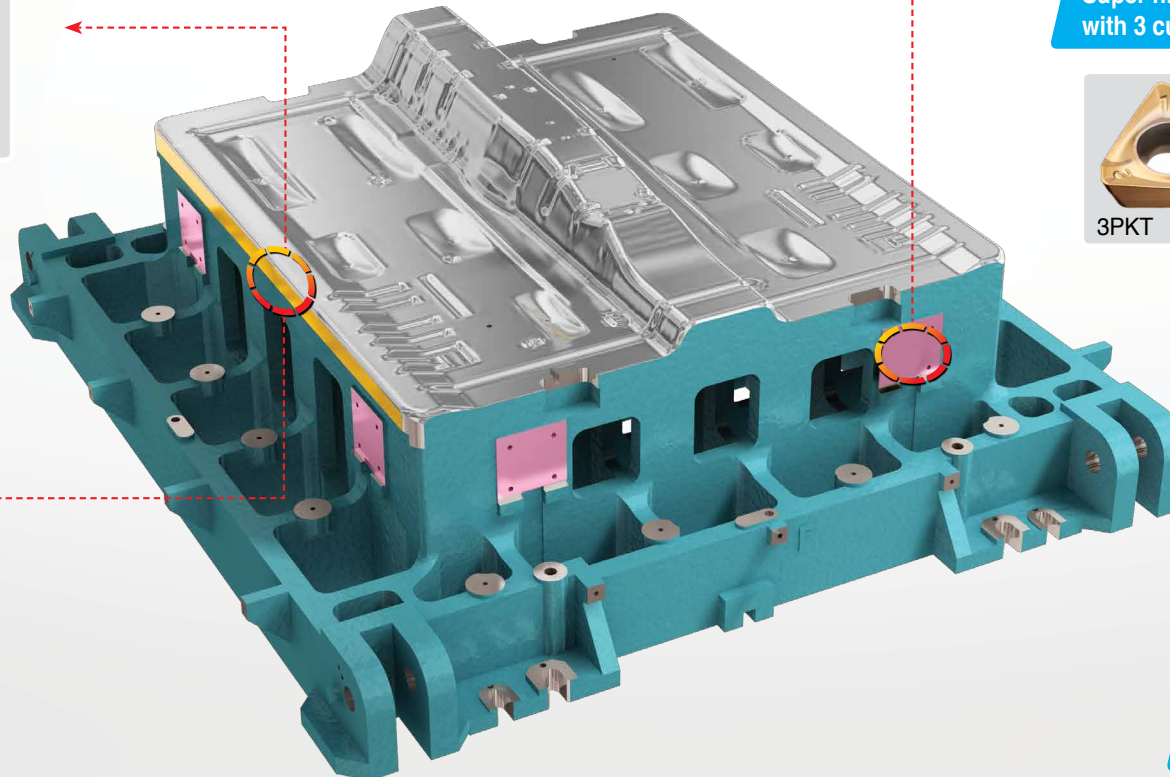
High productivity milling solution



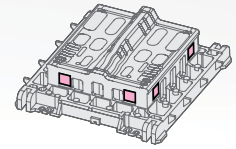
APKT-SM



APKT-EM

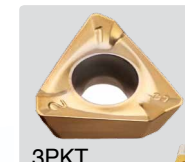


## Boss face & Side milling



### MILL-RUSH

Super high positive insert with 3 cutting edges



3PKT



### CHASE<sup>2</sup>MILL

90 degree line 4 corners insert for high ramping application



4NKT

### CHASEMILLPOWER

Small but powerful positive insert with dovetail design



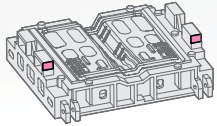
2PKT

# Holemaking

Press Die



➤ Deep hole drilling



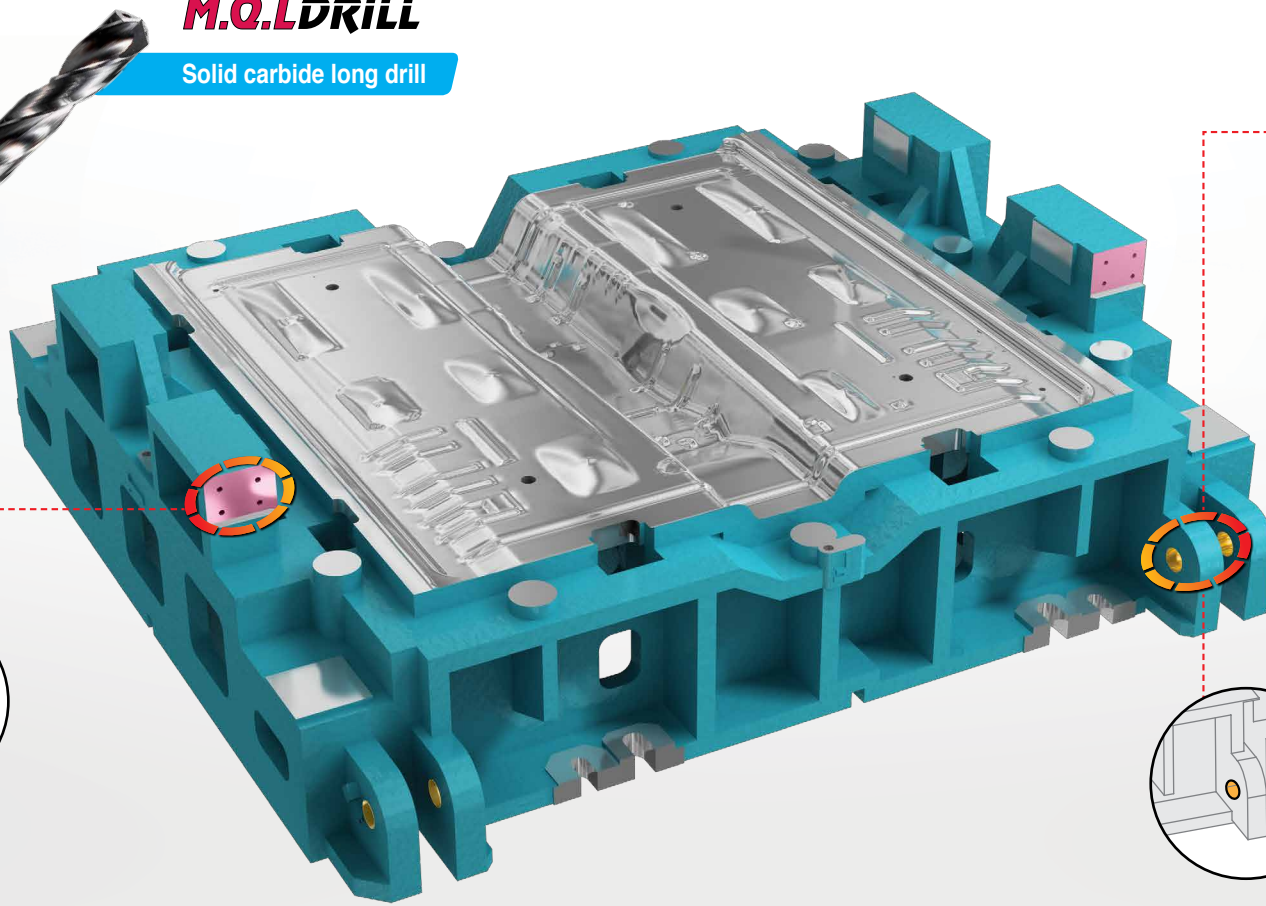
**H-DRILL**

New solid carbide drill - NHD

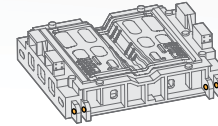


**M.Q.LDRILL**

Solid carbide long drill

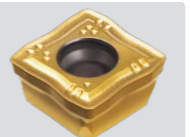


➤ Drilling



**TOPDRILL**

New generation of indexable drill



SOMT

**DRILL-RUSH**

New head-changeable drill



TCD



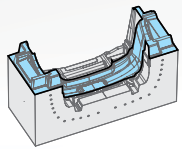


# Roughing

Injection Mold

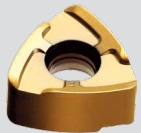


➤ Rough milling



**CHASE<sup>2</sup>FEED**

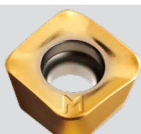
High feed milling cutter with a strong cutting edge



BLMP 13

**CHASEFEED**

High feed milling cutter with smooth cutting



SBMT 13

➤ Rest roughing

High feed end mill solution for rest machining

**CHASEFEED**

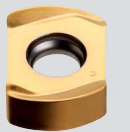


SBMT 09

**CHASE<sup>2</sup>FEED**



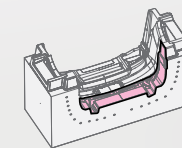
BLMP 06



BLMP 09

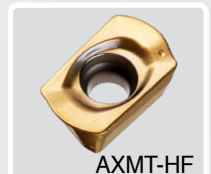


➤ Rough milling



**CHASEMILL**

High feed cutter optimized for small parts machining

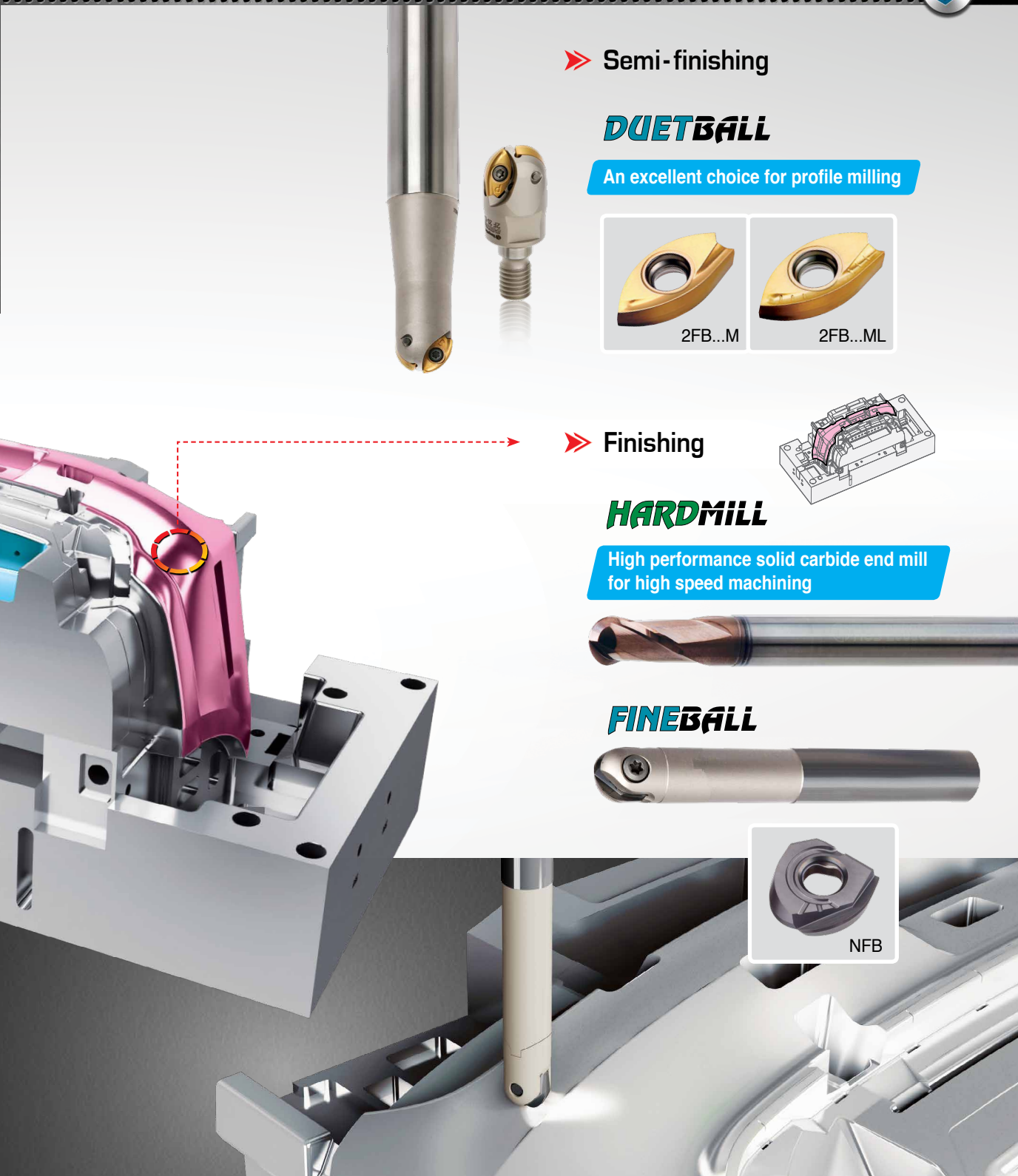
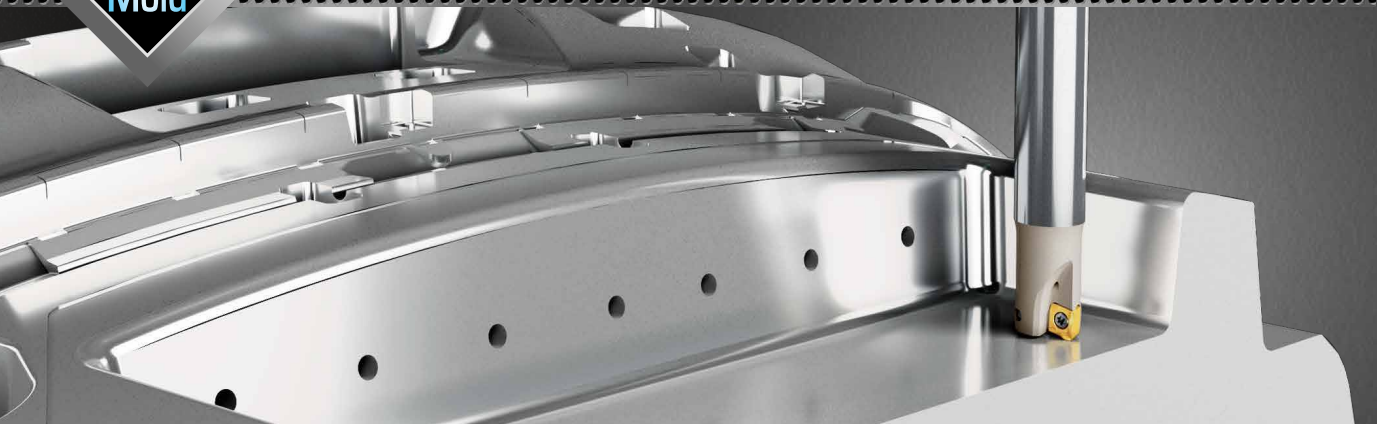


AXMT-HF

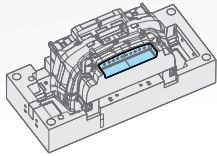


# Semi-finishing & Finishing

Injection  
Mold



➤ Semi-finishing



**CHASEMILLPOWER**

Small but powerful positive insert with dovetail design



**CHASE<sup>2</sup>MILL**

90 degree line 4 corners insert for high ramping application



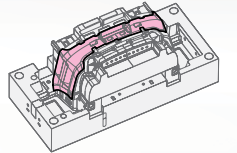
➤ Semi-finishing

**DUETBALL**

An excellent choice for profile milling



➤ Finishing



**HARDMILL**

High performance solid carbide end mill for high speed machining



**FINEBALL**



# Holemaking



» Drilling

» Deep hole drilling

## TOPDRILL

New generation of indexable drill



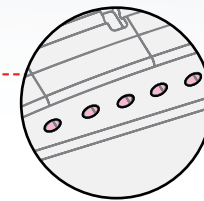
SOMT

## DRILL-RUSH

New head-changeable drill



TCD



## T-DEEP

New indexable gun drill  
with unique trigonal insert



TOGT



## M.O.LDRILL

Solid carbide long drill  
with coolant hole



# Tooling System



## High precision chucking system

### T-SHRINK

Thermal shrink chucks



- 1 ER... SRK
- 2 Integral SRK
- 3 Integral SRKIN



#### Induction heating unit

- ▶ Easy operation and tool change
- ▶ Quick heating and cooling time



#### Thermal heating unit

- ▶ For ER...SRK/SRF
- ▶ Exclusive and compact portable heating device

## Modular system

### T-FLEXTEC

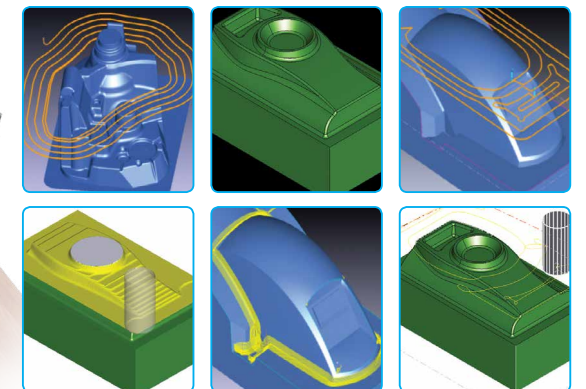
Economical modular head & shank



## CAM Program Support

### CAM - Machining Program

TaeguTec supports its cutting tools and machining solutions for the mold & die industry with the productive CAM software solutions provided by technology partners.



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