



Process technology

MIM technology
Elastomer technology
Plastic injection molding

THE KNOW-HOW FACTORY



THE KNOW-HOW FACTORY

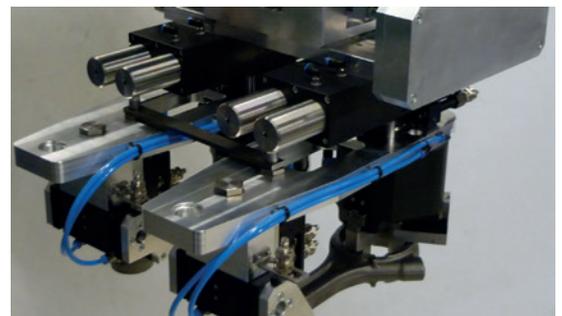
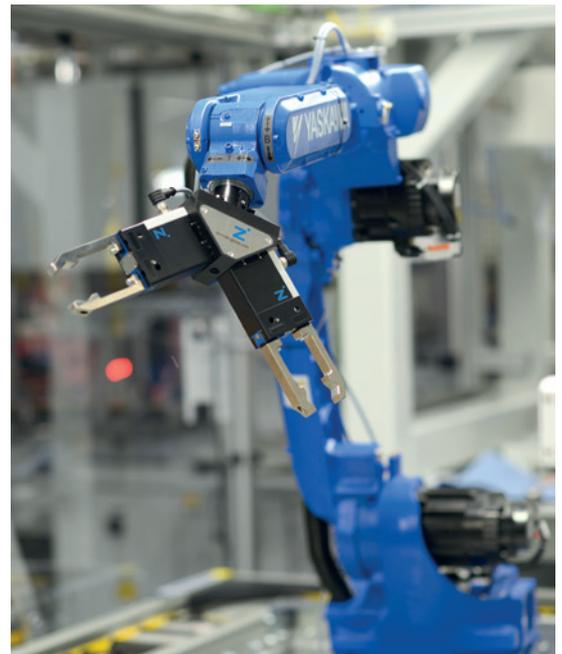
ZIMMER GROUP COMMITTED TO OUR CUSTOMERS

WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of ingenious solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.



TECHNOLOGIES



HANDLING TECHNOLOGY

MORE THAN 30 YEARS OF EXPERIENCE AND INDUSTRY KNOWLEDGE: OUR PNEUMATIC, HYDRAULIC AND ELECTRICAL HANDLING COMPONENTS AND SYSTEMS ARE GLOBAL LEADERS.

Components. More than 2,000 standardized grippers, swivel units, robotic accessories and much more. We offer a complete selection of technologically superior products that are ready for rapid delivery.

Semi-standard. Our modular approach to design enables custom configurations and high rates of innovation for process automation.



DAMPING TECHNOLOGY

INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

Industrial damping technology.

Whether standard or customized solutions, our products stand for the highest cycle rates and maximum energy absorption with minimal space requirements.

Soft Close. Development and mass production of pneumatic and fluid dampers with extraordinary quality and rapid delivery.

OEM and direct. Whether they need components, returning mechanisms or complete production lines – we are the trusted partner of many prestigious customers.



LINEAR TECHNOLOGY

WE DEVELOP LINEAR COMPONENTS AND SYSTEMS THAT ARE INDIVIDUALLY ADAPTED TO OUR CUSTOMERS' NEEDS.

Clamping and braking elements.

We offer you more than 4,000 types for profiled and round rails as well as for a variety of guide systems from all manufacturers. It makes no difference whether you prefer manual, pneumatic, electric or hydraulic drive.

Flexibility. Our clamping and braking elements ensure that movable components such as Z-axes or machining tables maintain a fixed position and that machines and systems come to a stop as quickly as possible in an emergency.



PROCESS TECHNOLOGY

MAXIMUM EFFICIENCY IS ESSENTIAL FOR SYSTEMS AND COMPONENTS USED IN PROCESS TECHNOLOGY. HIGH-LEVEL CUSTOM SOLUTIONS ARE OUR TRADEMARK.

A rich reservoir of experience. Our know-how ranges from the development of materials, processes and tools through product design to production of series products.

Deep production capabilities. The Zimmer Group pairs these capabilities with flexibility, quality and precision, even when making custom products.

Series production. We manufacture demanding products out of metal (MIM), elastomers and plastics with flexibility and speed.

MACHINE TECHNOLOGY

ZIMMER GROUP DEVELOPS INNOVATIVE METAL, WOOD AND COMPOSITE MATERIAL PROCESSING TOOL SYSTEMS FOR ALL INDUSTRIES. NUMEROUS CUSTOMERS CHOOSE US AS THEIR SYSTEMS AND INNOVATION PARTNER.

Knowledge and experience. Industry knowledge and a decades-long development partnership in exchangeable assemblies, tool interfaces and systems make us bound for new challenges around the world.

Components. We deliver numerous standard components from stock and develop innovative, customized systems for OEM and end customers – far beyond the metal and wood processing industries.

Variety. Whether you have machining centers, lathes or flexible production cells, the power tools, holders, assemblies and drilling heads of Zimmer Group are ready for action.

SYSTEM TECHNOLOGY

ZIMMER GROUP IS ONE OF THE LEADING SPECIALISTS IN THE DEVELOPMENT OF CUSTOMIZED SYSTEM SOLUTIONS WORLDWIDE.

Customized. A team made up of more than 20 experienced designers and project engineers develop and produce customized solutions for special tasks in close collaboration with end customers and system integrators. It doesn't matter if it is a simple gripper and handling solution or a complex system solution.

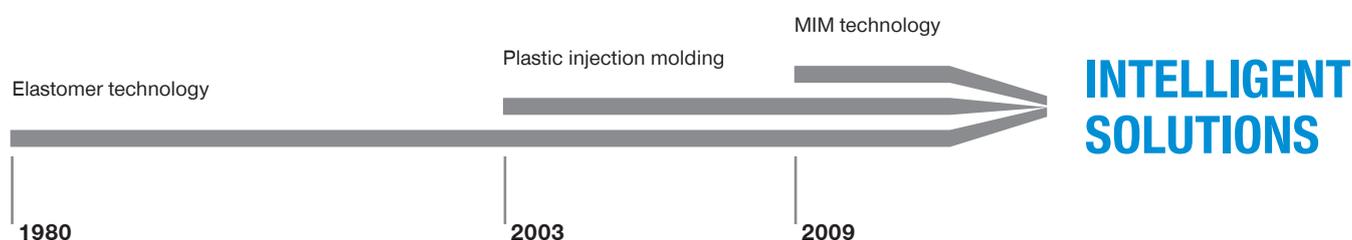
Solutions. These system solutions are used in many industries, from mechanical engineering to the automotive and supplier industries to plastics engineering and consumer goods industries, all the way to foundries. The Know-how Factory helps countless companies to thrive competitively by increasing automation efficiency.

PROCESS TECHNOLOGY OVERVIEW

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EXPERTS FOR INNOVATIVE TECHNOLOGIES



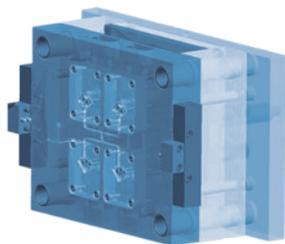
METAL, PLASTIC OR ELASTOMER? WE DEVELOP AND MANUFACTURE YOUR SERIES PRODUCTION COMPONENTS OPTIMIZED FOR THEIR TECHNICAL AND COST-EFFECTIVENESS CHARACTERISTICS. TOP QUALITY, SPEED AND RELIABILITY GO HAND-IN-HAND FOR US.

The path to success leads from intelligent system development to optimized material selection and appropriate manufacturing technology to a cost-efficient product. Our expert team supports you every step of the way with innovative ideas, individualized solutions and years of experience.

As experts for processing technology in Zimmer Group, we implement components for serial production from a wide variety of materials. We process elastomers, thermoplastics and various metals, such as low-alloy steels, stainless steels, titanium alloys or special materials, with our high-tech systems. In addition to the individual part, we develop ready-to-use complete systems from our existing material portfolio as needed.

Contact us; we would be happy to provide consultation for your system, material and production-related challenges!

DEVELOPMENT, DESIGN, MOLDMAKING BY ZIMMER GROUP



3D model for mold

Customer-oriented, customized designs, engineered and produced for series production of metallic components

In the processing technology business area, Zimmer Group offers its customers a comprehensive range of products and solutions from the areas of elastomer technology, plastic injection molding and metal injection molding (MIM technology).

We support these three areas from one shared foundation: Our exceptionally skilled moldmaking area, which we use to offer you complete services from a single source, from design and development through to the actual construction of the mold.

We are at our customers' side right from the start, supporting them throughout the process: Our developers have decades of experience and are capable of developing even the most complex of workpieces. This approach lets us identify and solve hidden problems that start to emerge during the development process and we contribute compelling, non-standard ideas that go above and beyond typical approaches when seeking the best solutions.



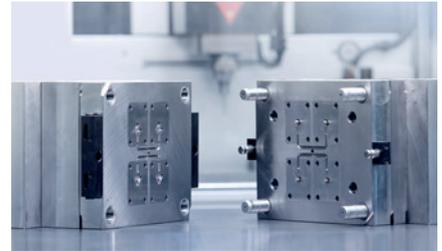
This goes hand-in-hand with our focus on customer needs and consideration for technical feasibility. We specifically select the best materials and tap into their full potential and fully utilize the possibilities of production processes. We examine interference contours, design strokes and motion and even use endurance testing in our lab as needed. This lets us use our high degree of expertise to ensure a final result with the best possible solution for your product where we also assume full responsibility for the design.

Moldmaking at its finest

Your mold is also in the best hands when we are responsible for its actual construction. This saves our customers the search for a suitable moldmaking company and lets them be sure that the implementation will be at the same high quality as design and development.

We can input the data directly into production using appropriate CAD/CAM interfaces, ensuring the best possible implementation. Our machine pool gives us atypical processing options since we are one of the few moldmaking companies that can offer both die-sink and wire-cut electrical discharge machining.

And after constructing the mold we can switch over to part production seamlessly. Whether you need single pieces or large-scale series production, whether you want to manufacture plastic, elastomer or metal parts: Contact us; you are in good hands with us!



Metal injection molding mold with 4 cavities
Mold for metal injection molding: Designed and manufactured by us in-house. Approximately 100,000 components are manufactured per year with this mold

ELASTOMER TECHNOLOGY

FLEXIBLE RIGHT FROM THE START



Whether big or small, we manufacture the right size for you!
Perforation gripper made from NBR in three different sizes for applications in handling technology

Zimmer Group produces sophisticated workpieces out of elastomers using cutting-edge production processes in its elastomer technology area where our focus is less on mass-produced products and more on sophisticated workpieces with complex geometry.

The production volume we can provide, as with the dimensions we can produce, are nearly limitless in scope; we can produce almost any volume desired, from special single-piece solutions to medium-sized small-scale production to large series production with more than 10,000 pieces. And the workpiece dimensions are just as varied, running the gamut from pinhead-sized components to workpieces with a volume of several liters.

Whether big or small: There is hardly any limit to the component complexity we can provide. We supply practically everything that can be implemented using the transfer molding (TM) or injection transfer molding (ITM) process, including insert parts like threaded inserts, springs and any other parts made of plastics or metals, which we also machine on request.



In addition to the transfer molding process, where an elastomer is inserted into a mold, compressed into a shape using a press, vulcanizing it under heat and pressure, we also use the injection transfer molding process. In this process, the initial materials are pressed into the mold on an injection molding machine and vulcanized from there.

We use these two processes to process a wide range of elastomers, such as NBR, silicone, EPDM, FKM and polyurethane. We also offer all of the technically feasible variations in hardness grades, coloring and improvements to chemical, mechanical or thermal resistance for these starting elastomers.

Products produced this way are used in numerous industries, such as mechanical engineering and vehicle manufacturing, medical equipment, construction and electrical engineering.



Our focus is flexibility, innovation and a large breadth of production

Elastomer mold for a bellows suction cup designed, developed and produced in-house by Zimmer Group



PLASTIC INJECTION MOLDING

THE SPECIAL KIND



Large-scale series production of plastic parts made of POM

Conventional plastics or special materials – we provide consultation for every aspect of plastic injection molding

We are in our element when the task involves complicated plastic injection molding. It enables us to demonstrate our full range of capabilities through the close interaction of development, design, moldmaking, injection molding production and assembly.

Apart from PVC, we process all typical plastics, such as semi-crystalline thermoplastics like POM, PE, PP, PA, PBT and PET as well as amorphous thermoplastics like ABS, PC, PEEK, PMMA, PS and SAN along with all common blends.

Just like in terms of elastomers, we also offer all of the technically feasible variations here as well, such as modifying the hardness grades and coloration or using special blends with specific improvements to chemical, mechanical or thermal properties. Laser-writable surfaces or increased UV protection for outdoor applications in the construction industry are no problem at all for us and we even produce wood/plastic composites (WPC) blends for the furniture industry with a 70% portion of wood fibers. Contact us; we are the specialists for your specialty! This also applies to high-performance plastics such as PEEK with or without fillers such as glass fibers or glass beads.



Our injection molding production is also state-of-the-art in every regard: For instance, we have a fully automated material infeed, which feeds raw pellets from a centralized storage location with integrated drying equipment to the injection molding machines via our conveyor's piping system. This lets us ensure cost-effective production with short response times that you can depend on at all times. Naturally, we are also at home handling insert parts like threaded inserts, springs and any other parts made of plastic or metal.

We can also machine metallic insert parts as needed; in addition, the insert parts can be handled and the finished parts can be removed using full automation depending on the order volume. We accomplish this using equipment such as robots and handling portals equipped with handling components from Sommer-automatic, the automation specialists within the Zimmer Group. These kinds of automation solutions allow us to reduce costs and ensure that you can put competitive products on the market!

Our product and service portfolio is just as varied as our customer structure. Among our customers you will find companies from almost every industry, from medical technology, mechanical engineering and vehicle manufacturing to the cosmetics and watchmaking industries to construction, electrical engineering and the air and space industry – a plethora of expertise for you to utilize!



Automation is one of the pillars of Zimmer Group
Automated handling and positioning of injection-molded metal and plastic parts



MIM

METAL INJECTION MOULDING



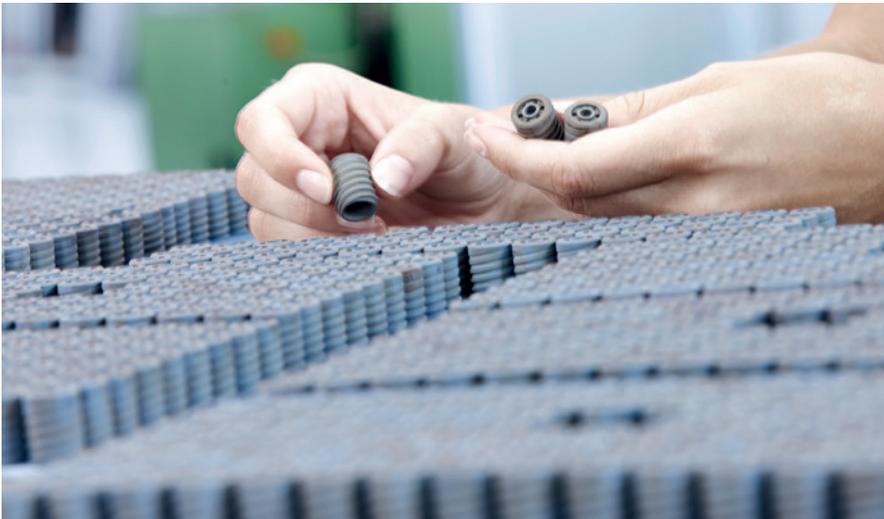
MIM TECHNOLOGY

THE BENEFITS OF TWO WORLDS

Series components made of metal with complex shapes are usually very time-consuming and expensive to put into production – but luckily there is now a superior alternative for these kinds of demanding workpieces in the form of MIM technology from Zimmer Group!

The MIM process allows us to manufacture metal parts of almost any shape using an injection molding process, as easily as though it were plastic! This process lets us elegantly combine the geometrical freedom of plastic injection molding with the outstanding rigidity and wear characteristics of metals.

The result is a thoroughly impressive technology for manufacturing metallic series production components with complex shapes – and at very attractive prices, too!



MIM

THE PROCESS



METAL POWDER BINDER

GREEN PART

FEEDSTOCK

The starting material for metal injection molding is formed from what is known as the feedstock. This consists of about 60% of the respective metal powder by volume and 40% of a binder by volume, i.e. a blend of polymers and waxes. The homogeneous mixture of all of the components is of critical importance, since that is the only way to ensure optimal processing and uniform product quality in later processes.

INJECTION MOLDING

The feedstock is processed using conventional injection molding machines the same way as plastic pellets. The binder portion is melted at a high temperature and the highly viscous mass of metal powder and binder is then pressed into the shape of the respective component. The resulting workpieces made of metal powder and binder are called “green parts” and have to be converted into purely metallic components in the subsequent processes.



BROWN PART



METAL PART

DEBINDING

In the debinding step, the majority of the binder is removed from the green parts. This normally happens by dissolving the binder components using a solvent or a catalytic reaction. What remains is a porous component held together by the remaining binder. These are then called “brown parts”. The remaining binder is then removed in a furnace. This means that the remaining binder is vaporized out of the component at a high temperature between 400 °C and 900 °C. At the same time, the metal particles start to bind together by forming what are known as sinter necks. They give the component sufficient stability for the subsequent sintering step.

SINTERING

The last process step, sintering, closes the pores left over by the binder. The components are compressed at high temperatures, usually over 1,000 °C. The respective temperature profile in the sinter furnace heavily depends on the material and the component geometry. As a result, this process step has to be carefully adapted and developed for each component geometry and each material. It is this care that ensures your components have optimal quality throughout their life cycle.

MIM

ADVANTAGES IN MANY APPLICATION AREAS



Large-scale series production of metal components
Metallic bevel pinions for applications in drive technology

The higher the complexity of a metal component is, the higher the effort and cost in production will be. Metal injection molding goes beyond conventional boundaries and enables the cost-effective production of complex metal parts that would otherwise be impossible or require significant costs.

This provides you with the same level of freedom for designing your workpieces that you have when using plastic injection molding, but at the same time you can take advantage of the strength and wear characteristics of metallic materials without any restrictions.



As a result, MIM technology offers you a host of appealing advantages:

- ▶ Cost-effective series production of metallic workpieces
- ▶ Entirely new level of freedom for designing parts
- ▶ Combines the advantages of injection molding technology with the outstanding strength and wear characteristics of metals
- ▶ Series production of smaller components with weights from 0.3 g to 150 g
- ▶ Complex components with a wall thickness down to 0.2 mm
- ▶ Ability to implement small and large holes, inner and outer threading, cross holes, undercuts and gear teeth
- ▶ Full utilization of the strength properties of the material being used
- ▶ Mechanical strength of workpieces equal to conventional manufacturing processes
- ▶ Surface treatment using frictional grinding, mirror polishing, sandblasting, passivation, electropolishing or etching
- ▶ Coating using burnishing or plating with chrome, copper, nickel, silver or gold
- ▶ Avoids production costs and the use of expensive assembly and connection techniques
- ▶ Significantly lower costs for complex components
- ▶ 25% to 65% less expensive than conventional production processes
- ▶ Applicable in a vast assortment of areas: Gearbox parts, watches, jewelry, eyeglass parts, surgical instruments, tweezers, dental braces, small and micro-sized parts for mobile phones, computers or other devices



PROCESS TECHNOLOGY

FACTS AND FIGURES

MATERIAL CHARACTERISTICS (MIM)

Material No. DIN	AISI	Composition %	Density g/ccm	sintered				
				Rm MPa	Rp0,2 MPa	A %	Hardness HV	
Low-alloyed steels								
FN02		C <0,1, Ni 1,5 - 2,5 Mo <0,5, Si <0,1 Fe Bal.	>7,5	260	150	20	>85 (45HRB)	
4605		C 0,1 - 0,47, Ni 1,5 - 2,57 Mo 0,2 - 0,57, Si <0,17 Fe Bal.	>7,55	415	255	15	>110 (62HRB)	
FN08		C <0,1, Ni 6,5 - 8,5 Mo <0,5, Si <0,1, Fe Bal.	>7,6	380	210	20	>120 (69HRB)	
FN0805		C 0,4 - 0,7, Ni 6,5 - 8,5 Mo <0,5, Si <0,1, Fe Bal.	>7,6	700	400	5	>150 (79HRB)	
100Cr6	1.350	5100Cr6	C 0,8 - 1, Cr 1,35 - 1,65 Fe Bal.	>7,4	900	500	5	>230 (97HRB)
8620	1.6523	8620	C 0,12 - 0,23, Ni 0,4 - 0,7 Cr 0,4 - 0,6, Mo 0,15-0,25 Fe Bal.	>7,4	650	400	3	>190 (90HRB)
8740	1.6546	8740	C 0,45 - 0,55, Ni 0,5 - 0,8 Cr 0,4 - 0,6, Mo 0,25 - 0,4 Mn <0,1, Si 0,3 - 0,55 Fe Bal.	>7,5	700	550	14	>200 (92HRB)
42CrMo4	1.7225	42CrMo4	C 0,35 - 0,5, Cr 0,9 - 1,2 Mo 0,15 - 0,3, Mn <0,9 Si <0,4, Fe Bal.	>7,45	700	400	3	>130 (71HRB)
4340	1.6565	4340	C 0,35 - 0,45, Ni 0,5 - 0,8 Cr 0,4 - 0,6, Mo 0,25 - 0,4 Mn <0,1, Si 0,3 - 0,55 Fe Bal.	>7,5	700	500	11	>130 (71HRB)
Stainless steels								
17-4PH	1.4542	17-4PH	C <0,07, Ni 3-5, Cr 15 - 17,5, Mn <0,1, Si <0,1, Cu 3 - 5, Fe Bal.	>7,65	800	660	3	>320 (32HRC)
316L	1.4404	316L	C <0,03, Ni 10 - 14, Cr 16 - 18,5, Mo 2 - 3, Mn <0,2, Si <0,1, Fe Bal.	>7,9	450	140	40	>120
420A	1.4021	420A	C 0,18 - 0,3, Cr 12 - 14, Mn <0,2, Si <0,1, Fe Bal.	>7,3	600	400	15	>200
Soft-magnetic alloys								
Fe3Si	1.0884		C <0,1, Si 2,5 - 3, Fe Bal.	>7,4	450	300	20	>160
Tool steels								
M2	1.3343	M2	C 0,78 - 1,05, Ni <0,3, Cr 3,75 - 4,5, Mo 4,5 - 5,5, W 5,5 - 6,75, V 1,75 - 2,2, Fe Bal.	>7,9	1200	800	1	>520 (50HRC)
Heavy metals								
W-22Fe33Ni			Ni 3 - 3,6, Fe 1,9 - 2,5, W Bal	>17,5				

MATERIAL CHARACTERISTICS (MIM)

hardened						
	Rm MPa	Rp0,2 MPa	A %	Hardness HV	Characteristics	Applications
Low-alloyed steels						
FN02					High strength Fatigue strength Surface hardness and excellent surface quality	Automotive engineering, mechanical engineering, etc. Suited for magnetic applications
4605	1100	700	3	490-590 (48 - 55 HRC)		
FN08						
FN0805	1300	1100	3	300 - 510 (30 - 50 HRC)		
100Cr6				700 (60 HRC)	High wear resistance and hardness	Moldmaking, automotive engineering, mechanical engineering, etc.
8620				650 - 800 (58 - 64HRC)	High surface hardness in conjunction with toughness	Moldmaking, automotive engineering, mechanical engineering, etc.
8740	1665	1500	0,3	>510 (50HRC)	High surface hardness in conjunction with toughness	Automotive engineering, mechanical engineering, etc.
42CrMo4	1450	1250	2	>450 (45HRC)	High strength and toughness, hard- ening by nitriding results in surface hardnesses of >600 HV10	Moldmaking, automotive engineering, mechanical engineering, hunting and sporting arms and gearbox compo- nents
4340	1450	1250	2	>450 (45HRC)	High strength and toughness	Automotive engineering, mechanical engineering
Stainless steels						
17-4PH				>370 (38HRC)	Martenitic, ferromagnetic stainless steel, high corrosion resistance, precipi- tation hardening is possible	Pump components, medicinal technolo- gy, mechanical engineering, automot- ive, aviation, shipbuilding engineering
316L					Austenitic steel with excellent corrosion resistance, non-magnetic, moderate hardness, high ductility, excellent polishability	Medical technology, apparatus engi- neering, chemical industry, watch and jewelry industry
420A	1600	1300	2	>460 (48HRC)	High hardness, wear resistance, good corrosion resistance	Tools, cutting plates, gearbox compo- nents, nozzles, mechanical engineer- ing, surgical instruments, medicinal technology
Soft-magnetic alloys						
Fe3Si					Applications with low magnetic losses and high electric resistance	Printers, relays, plugs, actuators
Tool steels						
M2				>820 (64HRC)	Wear-resistant high-speed steel	Cutting components, nozzles mechanical engineering, driving elements
Heavy metals						
W-22Fe33Ni					High density	Weights

QUALITY MANAGEMENT WITHOUT COMPROMISE FOR HIGH-QUALITY RESULTS



Optical measuring device

For determining the inspection dimensions of your components

Component quality, and the associated satisfaction of our customers, takes top priority in the process technology area. We do not just have the highest standards for the quality of the materials in use, we also advise our customers starting from the initial idea all the way to series production as a component. This allows us to strive for and implement optimal product quality starting with the development process.

Even before the job starts, we provide you with expert consulting related to your product where we examine all of the important details and put forward suggestions for improvement. This allows us to create the conditions for quick implementation of your components with the best quality well in advance.

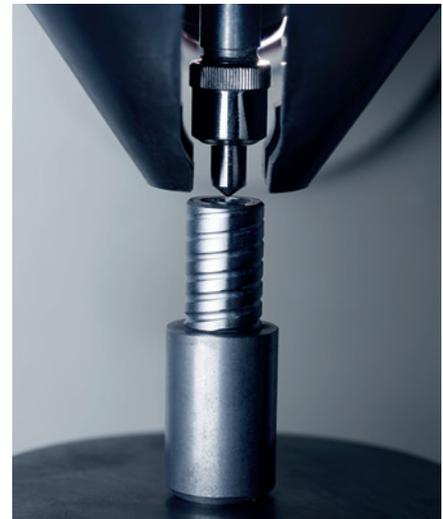
Our high-quality raw materials and expertise with the various processing technologies allow us to ensure that you receive only the products that meet all of your needs. Dimensional stability, mechanical strength or predicted service life: Your series production parts, systems and components are manufactured to the highest quality standards by us.



This high level of production quality can be achieved only through systematic and consistent implementation and constant optimization of production processes. The continuous improvement of our processes ensures that we can guarantee our high degree of quality for all of your products in the future as well. The strategy behind our strict quality orientation is based on two main pillars: First, we are certified in accordance with ISO 9001 and have exceptionally well-equipped quality assurance laboratories with an extensive range of measuring and testing equipment. Secondly, we are proud to employ a multitude of highly motivated employees with excellent qualifications. Their knowledge and dedication ensure that we can impress with constantly outstanding products and services at every level.



Gas pycnometer
For measuring the material density of your series production components



COMPLETE SOLUTIONS FOR COMPLEX REQUIREMENTS



Development, design and production for an entire module
Metering system for professional building cleaning

Mastering individual production processes is all well and good, but inspiring complete solutions that give you a decisive advantage on the market only truly start to emerge in the interaction between design, development, production and assembly. Zimmer Group is not just a specialist for mastering the individual disciplines of plastic, elastomer and metal injection molding to perfection, but the ability to combine them into a significant whole.

We use metal injection molding to produce piston links for Zimmer Group's clamping elements, manufacture the pistons from glass-bead reinforced plastic, complete them with an elastomer seal produced in-house and assemble these components into automation systems that we have also designed and implemented. But we do not just develop these kinds of special solutions for our own needs. The products we produce for our customers include self-developed metering valves made from plastic and metal components used to meter out cleaning agents automatically for professional building cleaning. Or we produce monitor height adjustments for machining centers consisting of a series of plastic and metal parts: We have developed all of the components, which are produced and assembled in our own production process.

Contact us: We will find a winning solution for your special requirements!



Green part



Sintered part



Burnished

PROCESS TECHNOLOGY CHECKLIST

Customer number	<input type="text"/>	Phone number	<input type="text"/>
Company	<input type="text"/>	Fax number	<input type="text"/>
Contact Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	<input type="text"/>	E-mail	<input type="text"/>
		Item	<input type="text"/>
Editor	<input type="text"/>	Miscellaneous	<input type="text"/>
Desired delivery date	<input type="text"/>	Date	<input type="text"/>
Quantity	<input type="text"/>	Potential quantity (per year)	<input type="text"/>

Component

Part number	<input type="text"/>		
Item designation	<input type="text"/>		
Annual quantity	<input type="text"/>	Quantity per month	<input type="text"/>
Weight	<input type="text"/>		
Process	<input type="checkbox"/> MIM	<input type="checkbox"/> Plastic	<input type="checkbox"/> Elastomer
Material	<input type="text"/>		

Application

Required mechanical properties

Drawing and step file will be made available

 Drawings Step file

Project duration

 2-5 years 5-10 years 10 years

Packaging

(observe the packaging provision)

Packaging dimensions	<input type="text"/>	<input type="checkbox"/> Bulk goods	<input type="checkbox"/> Individual packaging
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Prices

Asking price for part	<input type="text"/>	Asking price for tool	<input type="text"/>
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Remarks

