



We design, develop, manufacture and produce

- Machinery parts - CNC machined (Custom and Production)
- Plastic Injection Moulds Inserts and Standard Components
- Compression Moulds Components
- Extrusion Mould components
- Innovative Industrial Products
- Jigs & Fixtures (Checking, Assembly, Testing, Pneumatic, Hydraulic)

COMPANY INFO – 2023

# About HPML



OUR STORY



OUR MISSION, VISION,  
VALUES AND GOALS



OBJECTIVES & 2023  
TARGETS



RESOURCES AND  
SERVICES



PRODUCT  
REFERENCES

# Our Story

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**Arvind**

**Chugh**

President & CEO

[arvind@hpml.ca](mailto:arvind@hpml.ca)

- We started our journey on 14 June 2018 with our first VMC – HAAS VF4.
- Since then, we have continually grown in the field of manufacturing of high tolerance and high quality cnc machined parts & plastic injection molds.
- Our specialized equipment and in- house technical expertise allows us to machine and build products from a wide range of materials, including stainless steels, aluminums, Carbon steel, Alloy steel, Tool steel and Titanium
- We are currently located at Unit B, 105 Northland Road, Waterloo, ON. The workshop area is 5000 Sq. Ft, and we offer 2 shifts – 8 hours each – 6 days a week

# Mission

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- To exceed our customer's expectations in quality, delivery and cost through continuous improvement and customer interaction
- To maintain a superior level of integrity in interactions with business partners



# Vision

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To become a World's leading manufacturer and supplier of precision CNC machined parts to major industries such as automotive, medical, office equipment, defense and aerospace etc



# Values

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- ✓ Act with honesty and integrity
- ✓ Treat people with respect
- ✓ Conduct all business lawfully
- ✓ Accept individual and corporate responsibility
- ✓ Strive for customer satisfaction
- ✓ Improve and innovate continuously
- ✓ Never be wasteful



# Objectives

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- ✓ Improve quality
- ✓ Improve flexibility
- ✓ Improve sustainability
- ✓ Focus on controlling costs in both production and operations
- ✓ Reduce time-lost accidents
- ✓ Provide excellent customer service



# 2024 TARGETS

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- ✓ Add Surface grinder
- ✓ Add Cylindrical grinder
- ✓ Add ERP System
- ✓ Add Vertical Bandsaw
- ✓ Add Vacuum table/Magnetic vise
- ✓ Add new area for the assembly and testing of Jigs & Fixtures



# Our Resources



CNC MACHINES



CAD / CAM SOFTWARE



INSPECTION (QC)

# CAD/CAM SOFTWARE CAPABILITY

CAD - AutoCAD Fusion 360	2022	3 license
CAD - 2D DraftSight	2022	2 license
CAM - Mastercam Mill 3D	2023	1 license
CAM - Mastercam Lathe	2023	1 license



# CNC MILL (4 AXIS)

<u>M/C Type</u>	<u>Make</u>	<u>Model-Year</u>	<u>Travel (X, Y,X Inch)</u>	<u>Description</u>	<u>QTY</u>	<u>Capability</u>
CNC VMC	HAAS	VF2 - 2019	Travel: 30" x 16" x 20"	10000-rpm Spindle, 20-station carousel tool changer, Coolant Thru Spindle, High Speed Machining	1	4 Axis
CNC VMC	AWEA	AF1250 (2021)	Travel: 49.2 "x 25.6" x 24.4"	Spindle speed 15000 RPM, CT40 36 Tool, Coolant Thru Spindle, Air Thru Spindle, High Speed Machining, Air around the spindle	1	4 Axis
CNC VMC	AWEA	AF1600 (2021)	Travel: 63"x 31.5" x 31.5"	Spindle speed 15000 RPM, CT40 36 Tool Coolant Thru Spindle, Air Thru Spindle High speed machining, Air around the spindle	1	4 Axis
CNC VMC	AWEA	AF1000 (2022)	Travel: 40"x 25" x 21.6"	Spindle speed 12000 RPM, CT40 24 Tool Coolant Thru Spindle, Air Thru Spindle High speed machining, Air around the spindle, Spindle drive motor 15/18.5 kW	1	4 Axis
CNC VMC	AWEA	AWEA AF-760X (AF-800II) (2022)	Travel : 31.5" x 20" x 20"	Spindle speed 10000 RPM, CT40 24 Tool Coolant Thru Spindle, SPINDLE AIR BLAST, High speed machining, Air around the spindle, Spindle drive motor 7.5/11 kW	1	4 Axis

# CNC LATHE (LIVE TOOLING, Y AXIS)

<u>M/C Type</u>	<u>Make</u>	<u>Model-Year</u>	<u>Travel (X, Y,X Inch)</u>	<u>Description</u>	<u>QTY</u>	<u>Capability</u>
CNC Lathe	GoodWay	GLS-2000LY CNC LATHE	Max Swing Diameter - 22" Swing over saddle - 9" Max turning diameter - 15.35" Max turning length - 23.6" Standard turning diamter - 6.6" Bar capacity - 2.5" Spindle RPM - 4500 Hole through spindle - 3"	8" 3-Jaw Big-bore Power chuck, 12 station 12 Live Servo Indexing Turret (ER-25). Tailstock with Programmable Non-Rotating Quill (MT#4). Part Cathcer, Bar feeder Interface, Renishaw HPML Tool setter	1	

# CNC WIRE EDM (4 AXIS)

<u>M/C Type</u>	<u>Make</u>	<u>Model-Year</u>	<u>Travel (X, Y,X Inch)</u>	<u>Description</u>	<u>QTY</u>	<u>Capability</u>
CNC Wire Cut	Mitsubishi Electric	MV1200-S Wire EDM	Max. workpiece dimensions (in) 31.9 x 27.6 x 8.5 Workpiece weight (lbs) 1100 Table dimensions (in) (3-sided) 25.2 x 17.7 Machining range (in) 15.7 x 11.8 x 8.7	Intelligent Auto-Threader, Chiller FTS, 10 KG (22lb) Wire Spool, Wire Alignment Gauge, Auto Oiler, Advanced Hand Pendant Box, 3-Sided Table, Remote 360, Cylindrical LSM Drives, DI Resin System, Small Wire Device .004", Cylindrical LSM Drives	1	4 Axis

# CMM



M/C Type	Make	Model-Year	Travel (X, Y, X Inch)	Description	QTY	Capability
CMM	Hexagon	4.5.4. SF CMM (2023)	Measuring Range 355mm (14") x 514mm (20.2") x 353mm (13.9")	<p>Frame (roll-around stand)</p> <ul style="list-style-type: none"> <li>• Linear bearings (no compressed air supply, no air filters are required)</li> <li>• H3C-T Controller 600W, US 120V (standard 110V outlet use)</li> <li>• Next Jog Box</li> <li>• HH-Mi-M manual indexing Probe Head,</li> <li>• Touch Trigger Probe Module Set, HP-TMe Kit #3 (Body, SF, MF)</li> <li>• Stylus kit No.7</li> <li>• Probe Qualification Sphere, Steel (M8)</li> <li>• Workpiece standard thermal sensor</li> </ul> <p>Computer &amp; Software System</p> <ul style="list-style-type: none"> <li>• Lenovo ThinkStation P520 or current model</li> <li>• 15" LCD Touch Screen, Wireless Keyboard</li> </ul> <p><b>HH-MI-M probe head and HP-TMe touch trigger probe</b></p> <p>The HH-MI-M is a manual indexable probe head with an M8 probe interface. HH-MI-M can be manually rotated to 168 indexed positions in 15° increments in two axes without the requirement for recalibration of the tip.</p> <p><b>HP-TMe touch trigger probe (body + standard force &amp; medium force modules)</b></p> <p>The HP-TMe is a compact 5-way touch-trigger probe, the two piece design is comprised of the probe body and a detachable stylus module. The body and module are connected together by a highly repeatable kinematic magnetic coupling. The modules can be quickly changed either manually or automatically without the need to recalibrate the probe. The stylus modules are available in four versions each giving a different trigger force. The HP-TMe system can be easily retrofitted and is compatible with existing touch-trigger controllers, extension and accessories.</p> <p><b>PC-DMIS CAD++ Software</b></p> <p>The industry standard PC-DMIS software allows the user to take full advantage of the design file resulting in a streamlined inspection process. This package is designed to support all of your measurement needs, with or without a CAD file.</p> <p>1. Point-and-Click TM Programming, 2. XactMeasure GD&amp;TTM, 3. Offline Simulation, 4. NIST Certified, 5. CAD File Export, 6. Report Templates</p>	1	4 Axis

# LASER ETCHING

M/C Type	Maker	Model - Year	Travel(X,Y,X Inch)	Description	QTY	Capability
Laser etching/engraving	DAYA	DYGQ-20W	Size (mm) : 1600 x 1000 x 900	Laser etching can be done on Steel, Aluminium, Stainless Steel and other metals	1	2 Axis



# Raw Materials Machining Capability

Aluminium	Plastics	Carbon Steel	Alloy Steel	Tool Steel	Stainless Steel	Structural Material	Others	Hardened Material
6061-T6	Acetal Black Acetal Natural	1018 CRS	4140 ANN	O1	304/304L	Angles	Brass (260, 360 free cutting, Navel)	A2, D2, O, P20 steel upto 62 HRC
7075-T5	Nylon 66	1020 CRS	4140 HT	A2	316L	Channels	Copper (C101)	SST UNS S17500 COND H1150
6063-T5	PVC Grey	1045 HRS	4340 HT	D2	303	Tubing	Bearing Bronze C93200	
3003	PEEK	S50C	8620	P20	440C	Pipe	Bronze 660	
Cast tooling plate	Blue cast Nylon	CR 12L14	4130 HT	S7	17-4PH	Threaded Rod		
5052	UHMW	DOM Tubes		S5	18-8			
2024	ABS Black	Welded Structures		H13	416			
Aluminum Bronze C95400	PTFE (Teflon)			M2				



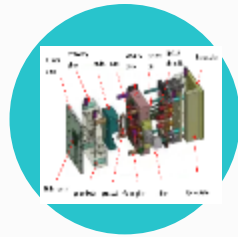
# QC CAPABILITY

Description	Instrument	Measuring range	Accuracy	Qty.
Digital Vernier caliper	Mitutoyo	8"	.0005"	8 set
Digital Vernier caliper	Mitutoyo	24"	.0005"	1 set
Outside Micrometer	Mitutoyo	0-6"	.0001"	4 set
Height Gauge	Mitutoyo	0-40"	.0001"	1 set
Test Indicator	Mitutoyo		.0005"	1 set
Dial Indicator	STM	1"	.001"	3 set
Depth Gauge	Mitutoyo	0-6"	.001"	1 set
Gauge Block set	STM	.05-4"		2 set
Thread Measuring		4-84 TPI		3 set

# Our Services



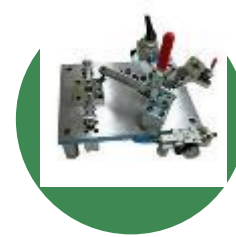
**CNC MACHINING**  
**(CUSTOM AND PRODUCTION)**  
CNC MILLING – 4 AXIS  
CNC LATHE – Y AXIS, LIVE TOOLING  
LASER CUTTING & BENDING  
LASER ETCHING  
CNC WIRE CUT  
CNC EDM  
SURFACE GRINDING



**PLASTIC INJECTION MOULDS & COMPONENTS**



**INNOVATIVE INDUSTRIAL PRODUCTS**



**JIGS & FIXTURES**  
**(CHECKING, ASSEMBLY, TESTING, PNEUMATIC, HYDRAULIC)**

# PRODUCT REFERENCES

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PLASTICS

# ACETAL NATURAL & BLACK



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QUALITY PRECISION ACCURACY



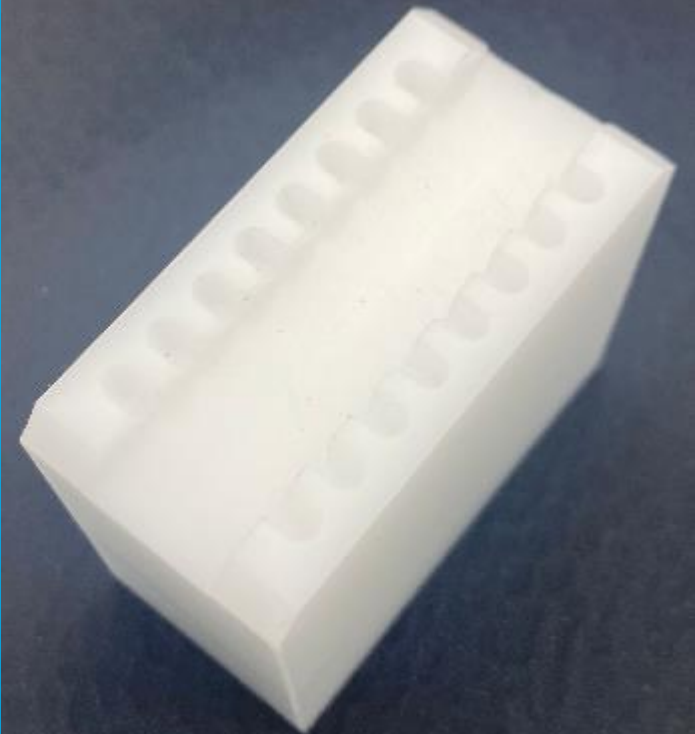
HY Precision Manufacturing

QUALITY PRECISION ACCURACY

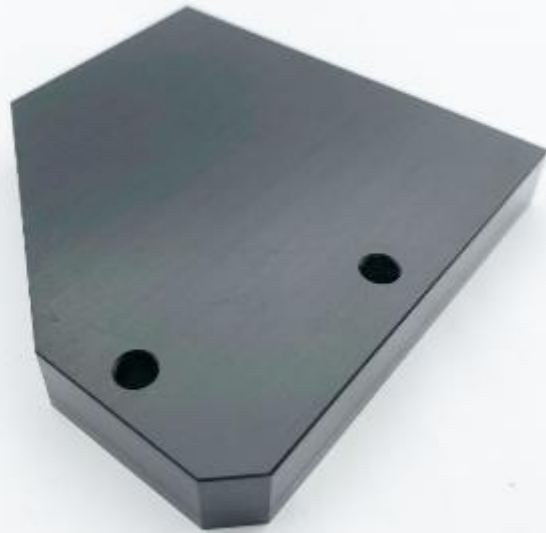


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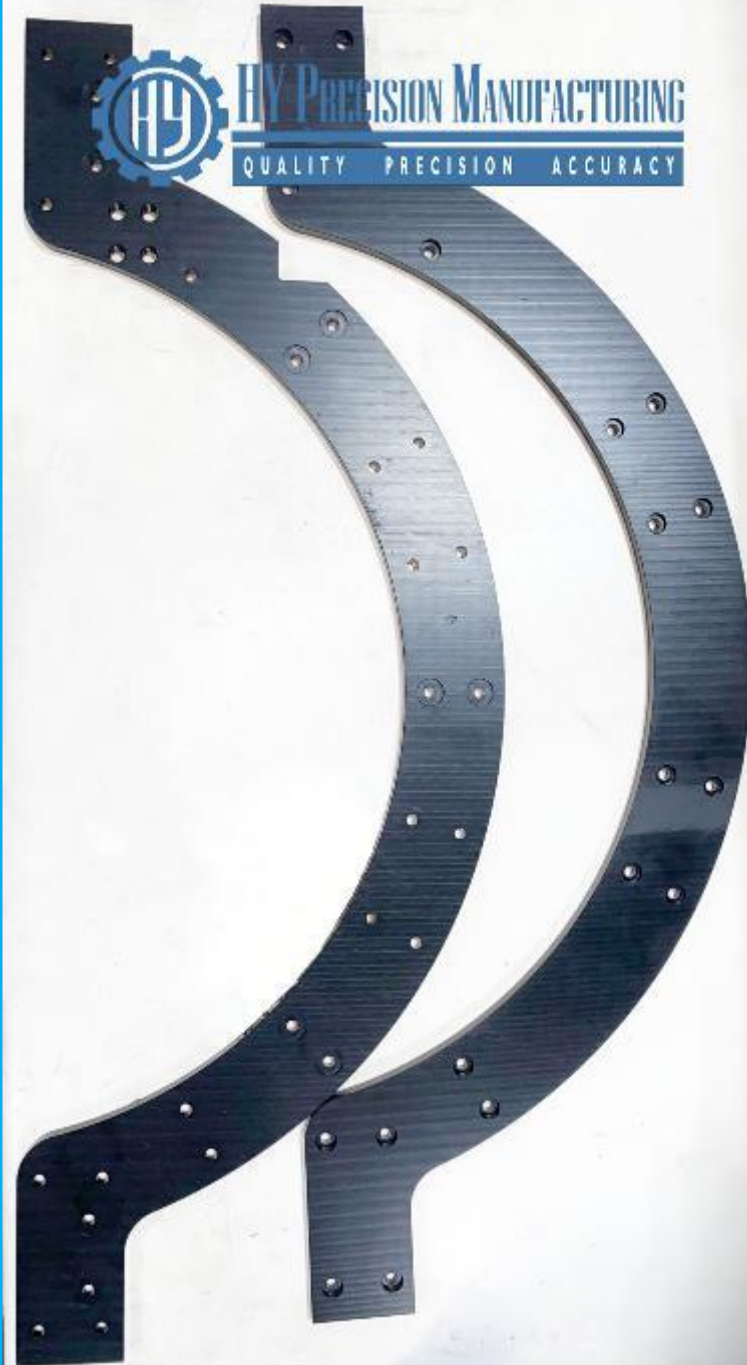
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# ACETAL BLACK



# ACETAL BLACK



# PEEK

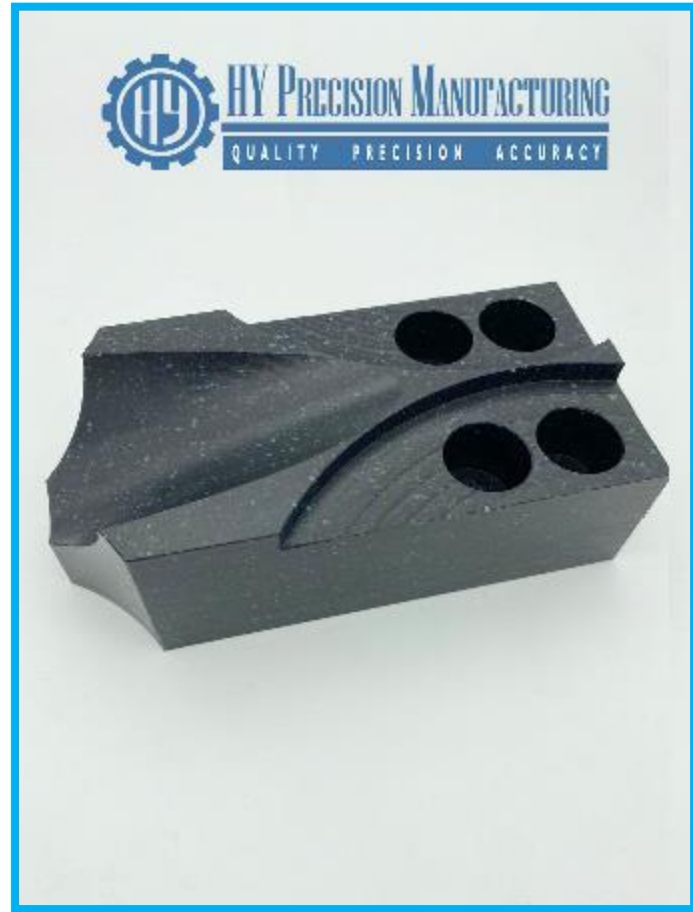




# PEEK



# UHMW BLACK (REPRO)

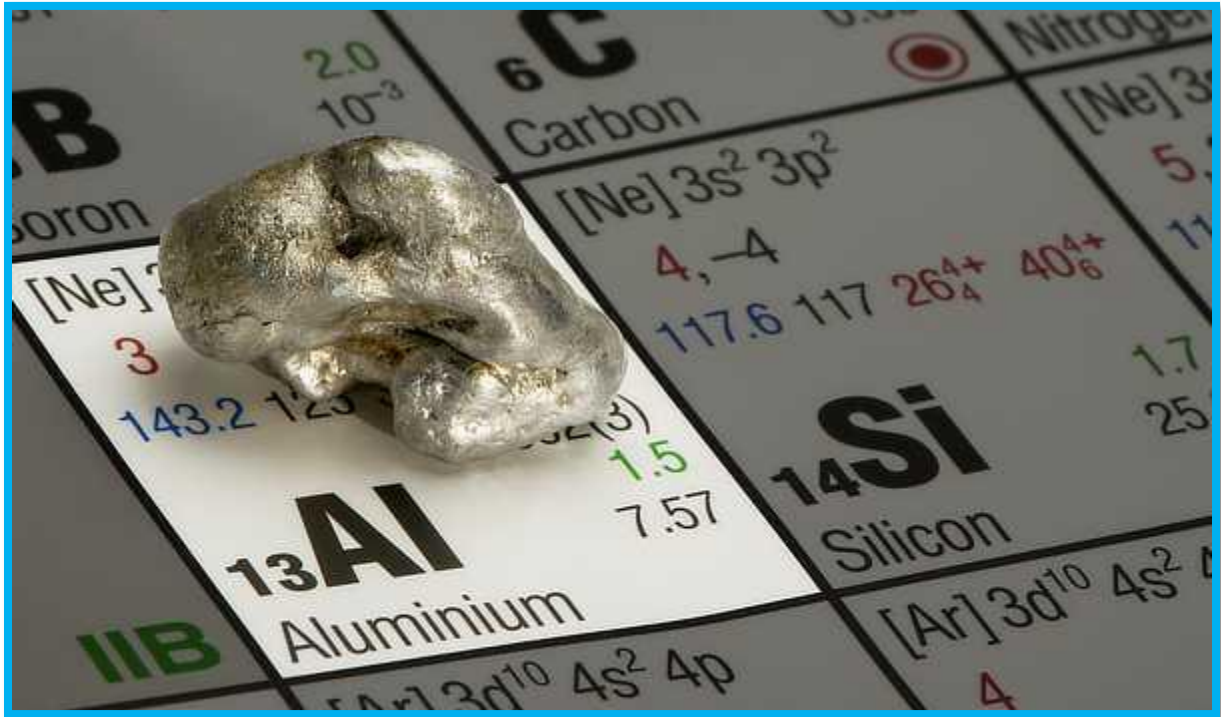


# ACETAL NATURAL



# NYLON 66 NATURAL

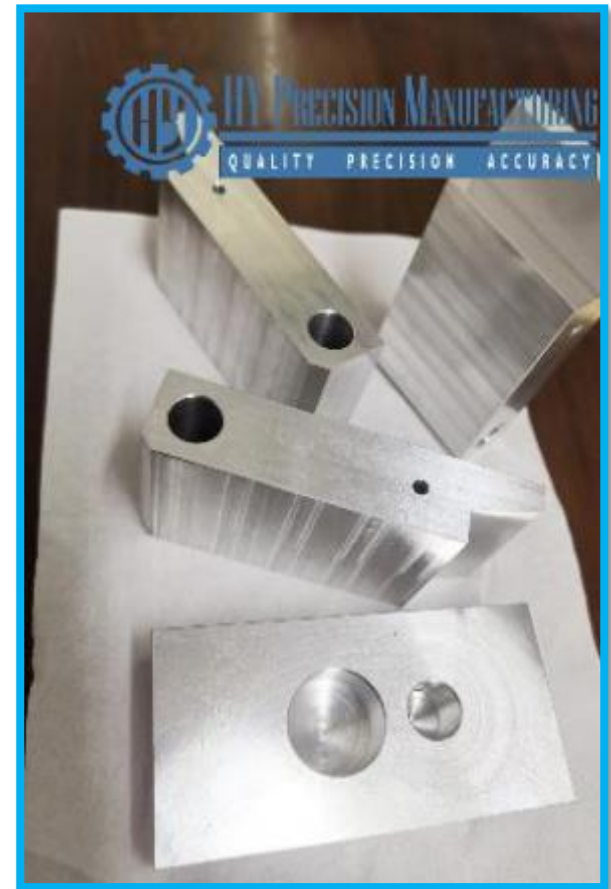




# ALUMINIUM 6061 T6



# ALUMINIUM 6061 T6



# ALUMINIUM 6061 T6





# ALUMINIUM 6061 T6



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# ALUMINIUM 6061 T6



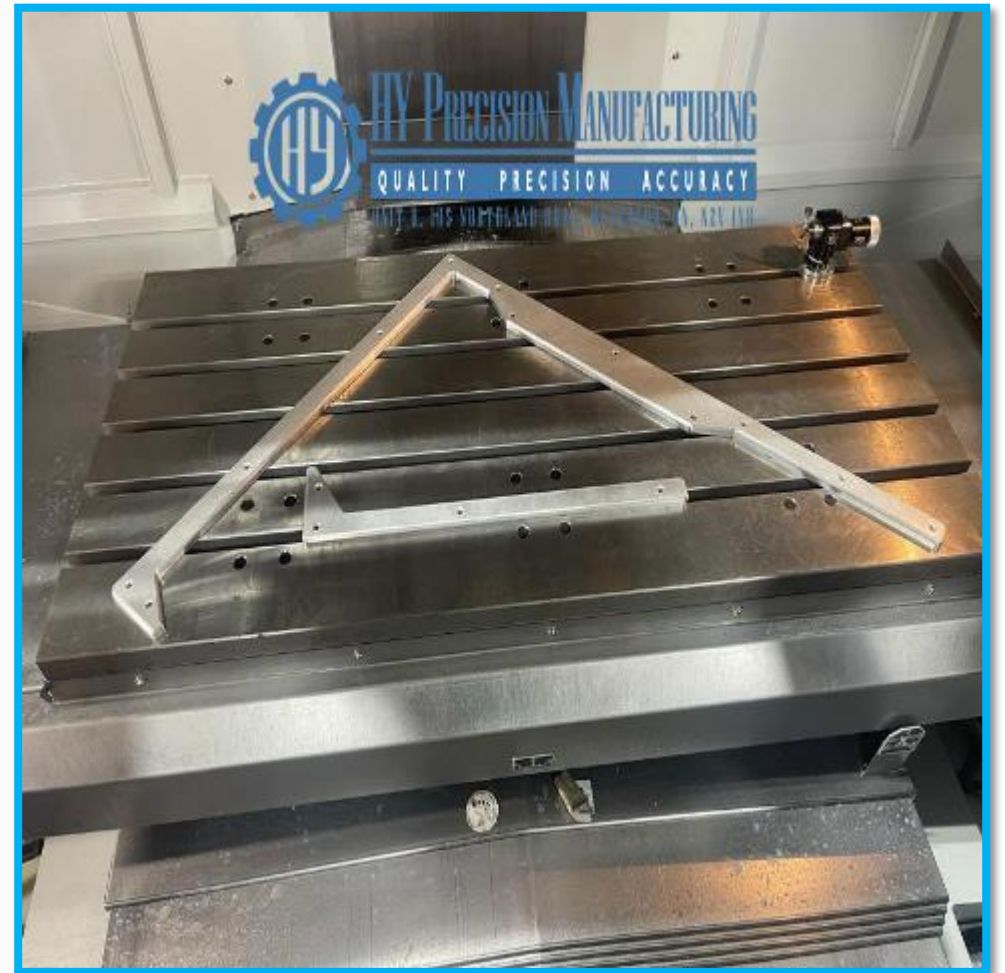
# ALUMINIUM 6061 T6, BLACK ANODIZED



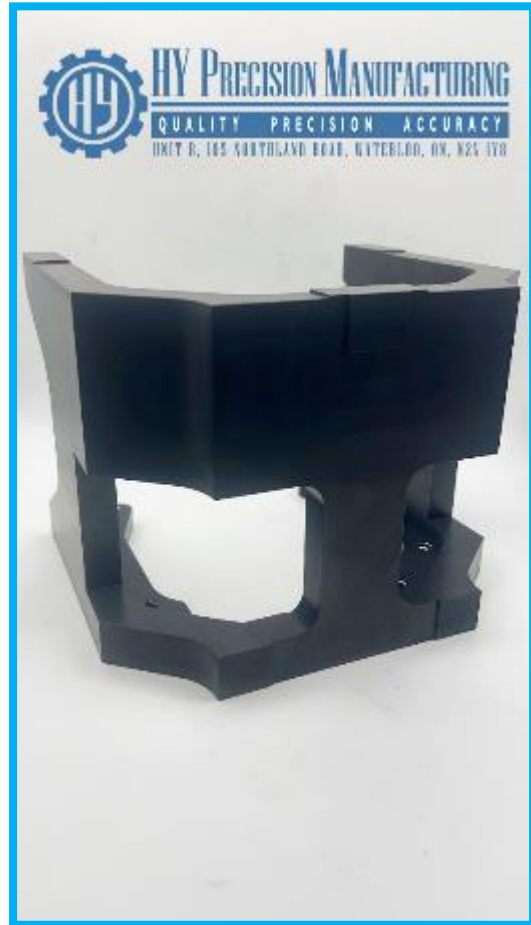
# ALUMINIUM 6061 T6, CLEAR ANODIZED



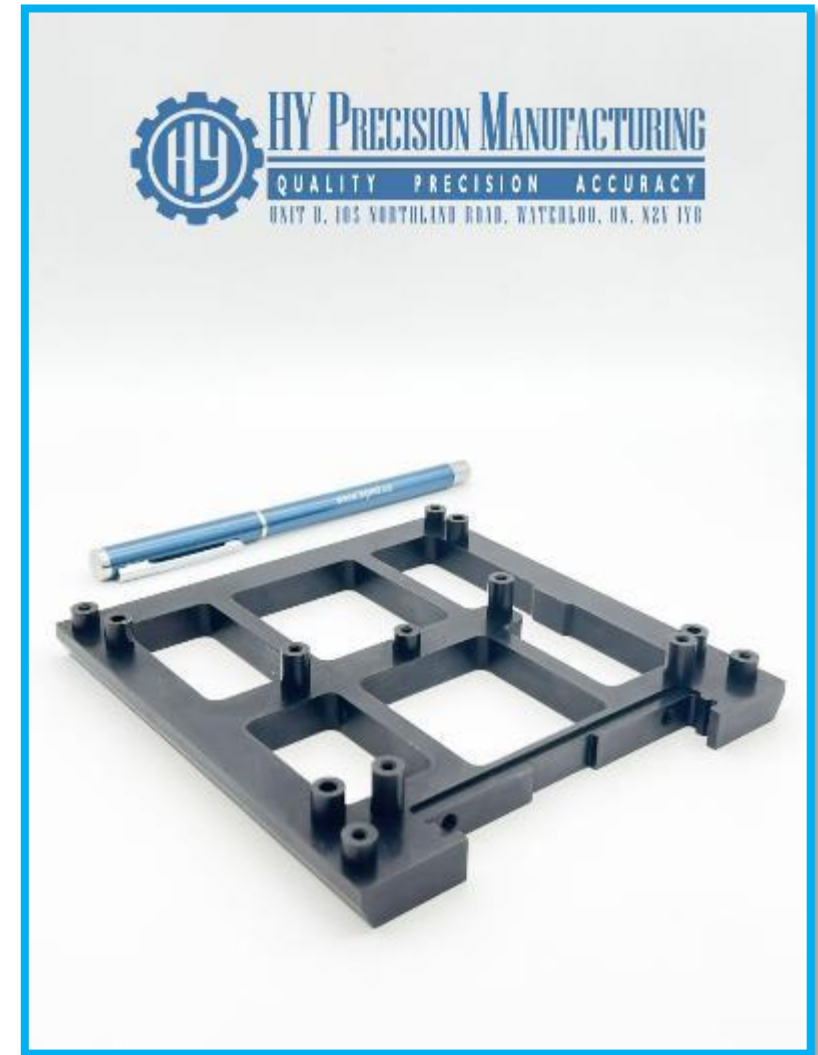
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# ALUMINIUM 6061



# ALUMINIUM 6061



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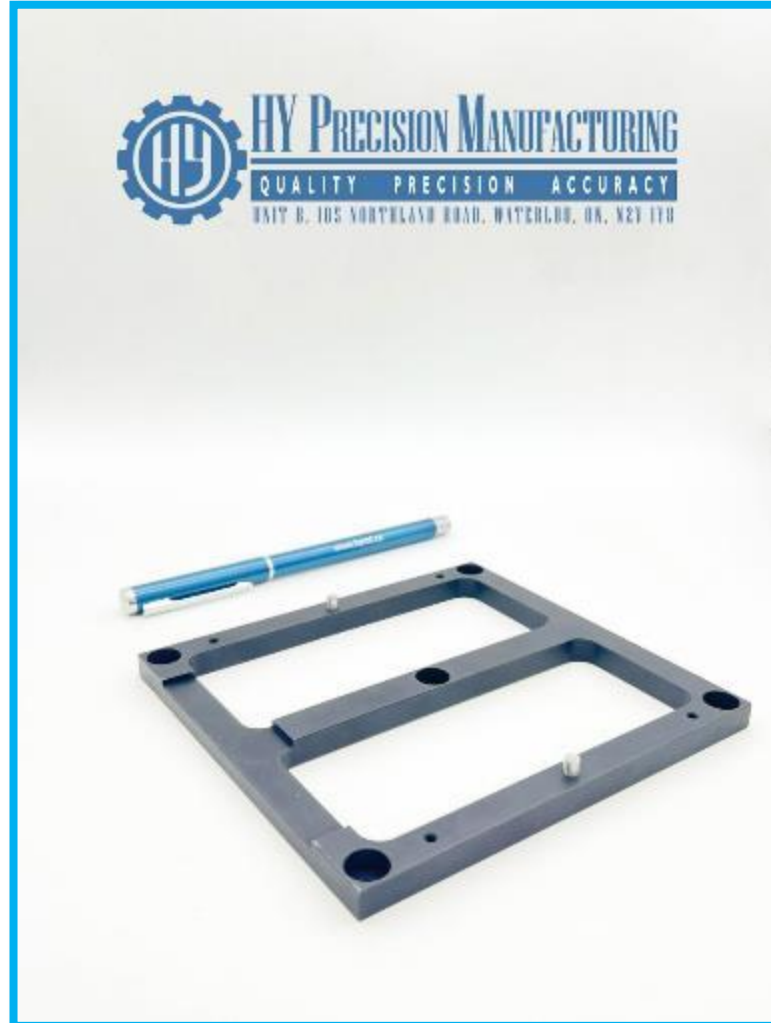




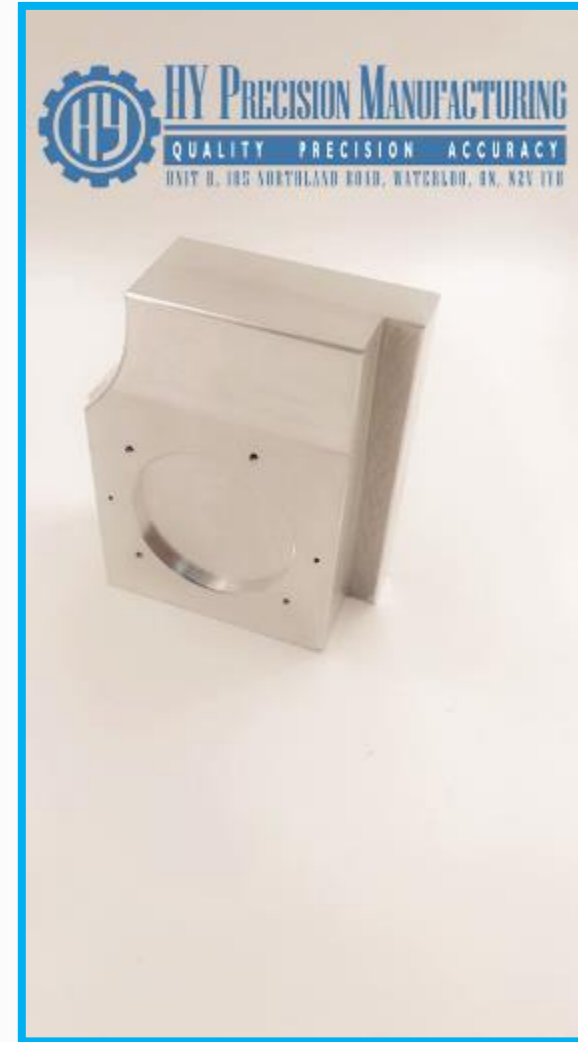
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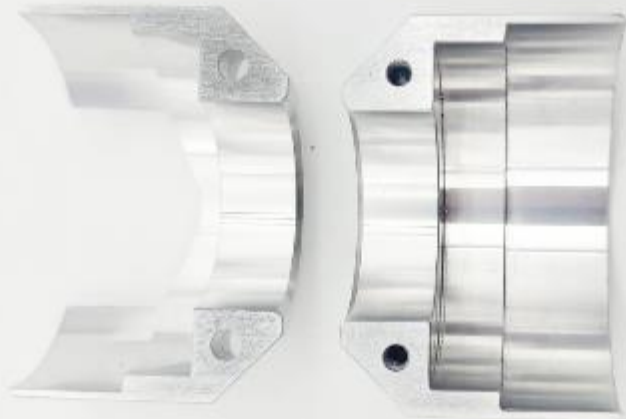
# ALUMINIUM 6061



# ALUMINIUM 6061



# ALUMINIUM 6061



# ALUMINIUM 6061



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# ALUMINIUM 2024



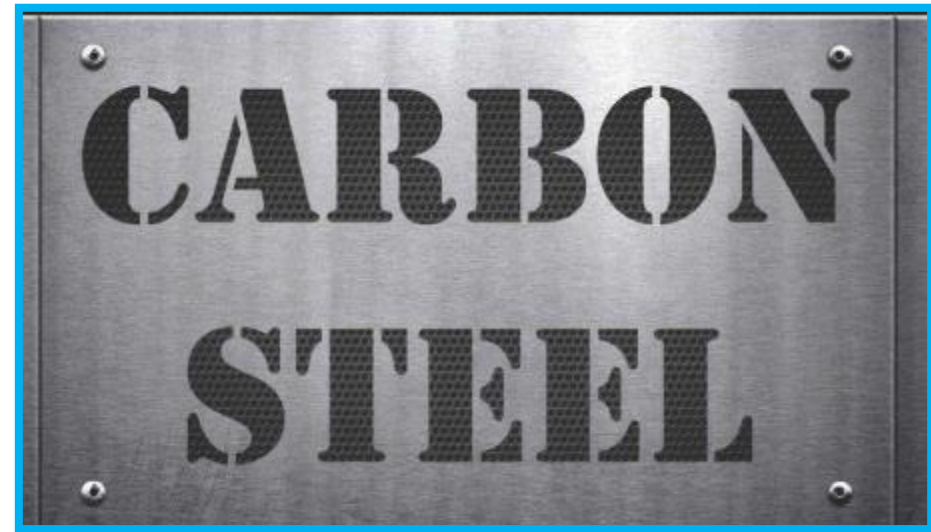
# ALUMINIUM BRONZE



# ALUMINIUM BRONZE







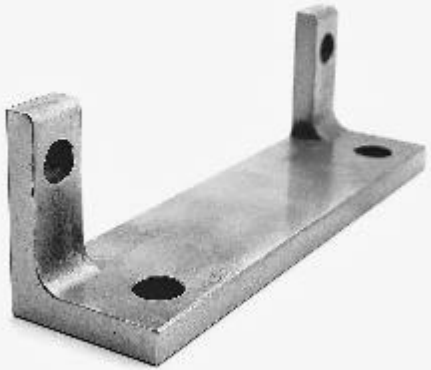
# CRS 1018 (E-nickel coating)



# CRS 1018



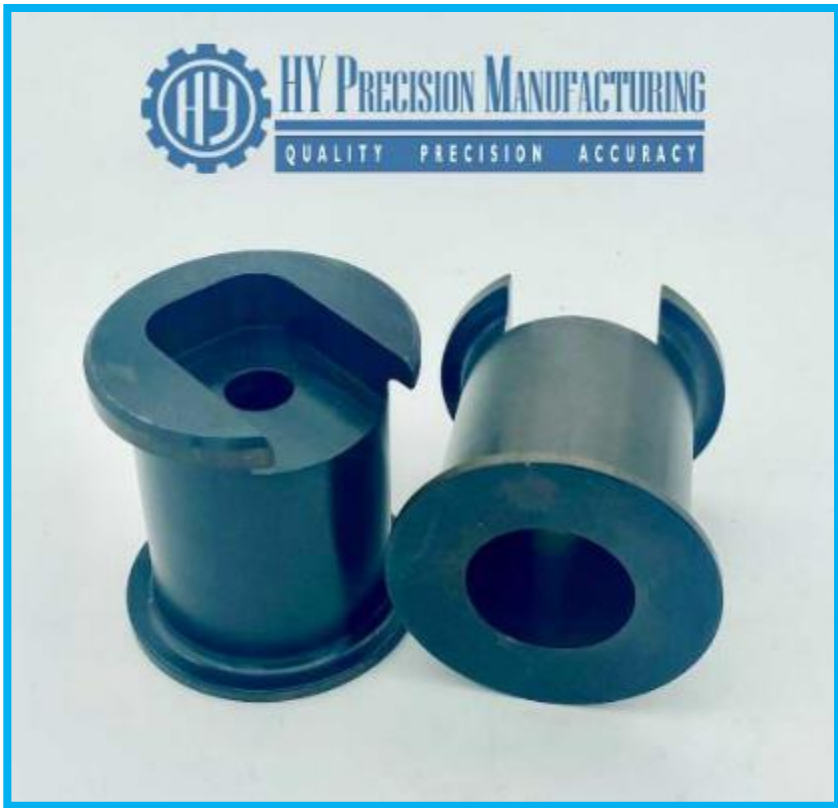
# CRS 1018



# CRS 1018



# CRS 1018 (Black oxidized)



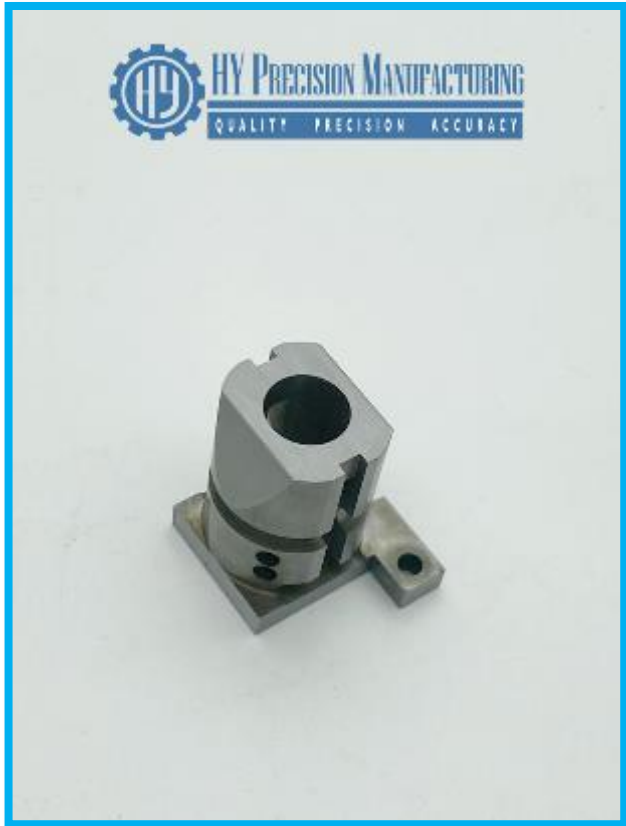
# CRS 1018 (Clear Zinc)



**TOOL STEEL/ALLOY STEEL**



# 4140 HT (HRC 28-32)



# 4140 HT (HRC 28-32)



# 4140 HT (HRC 28-32)



# 4140 HT (HRC 28-32)



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# 4140 HT (HRC 28-32)



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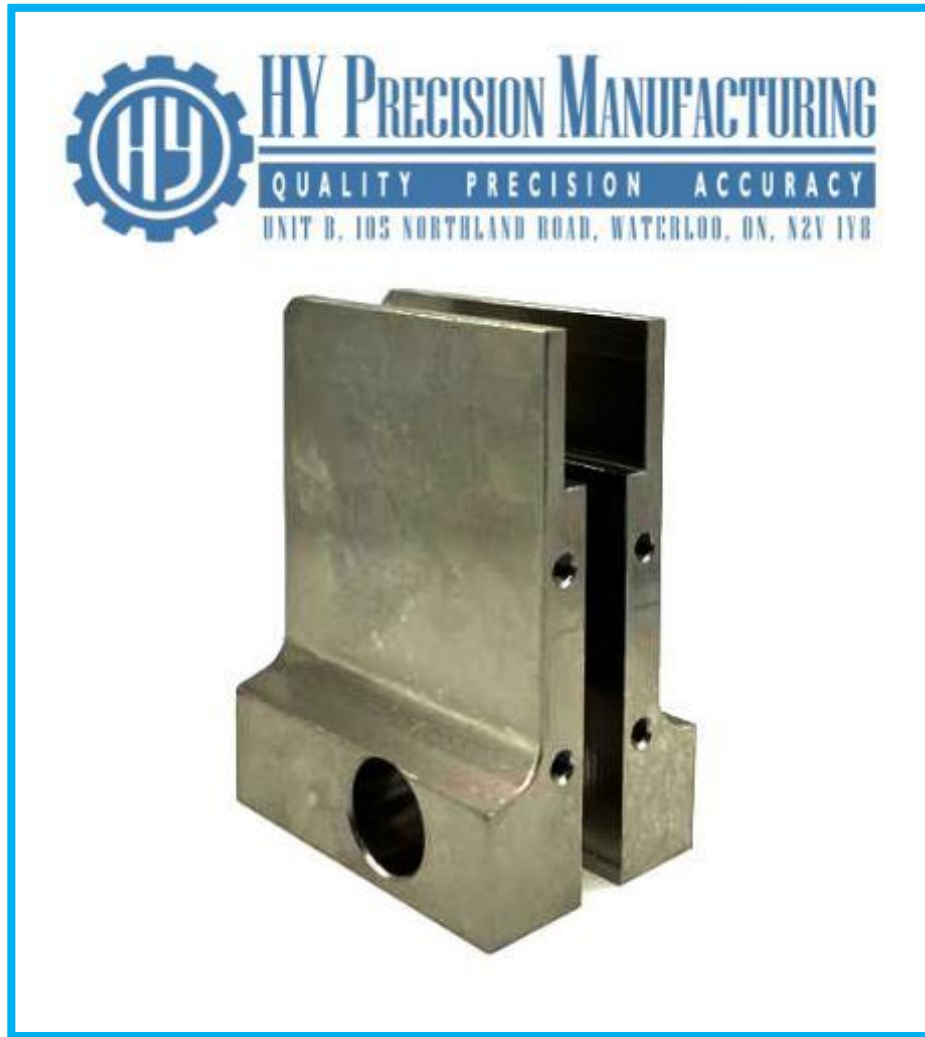
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# 4140 HT (HRC 28-32) E-Nickel coating



# 4140 HT (HRC 45)



# 4140 HT HRC 45



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# 4340 HT HRC 45



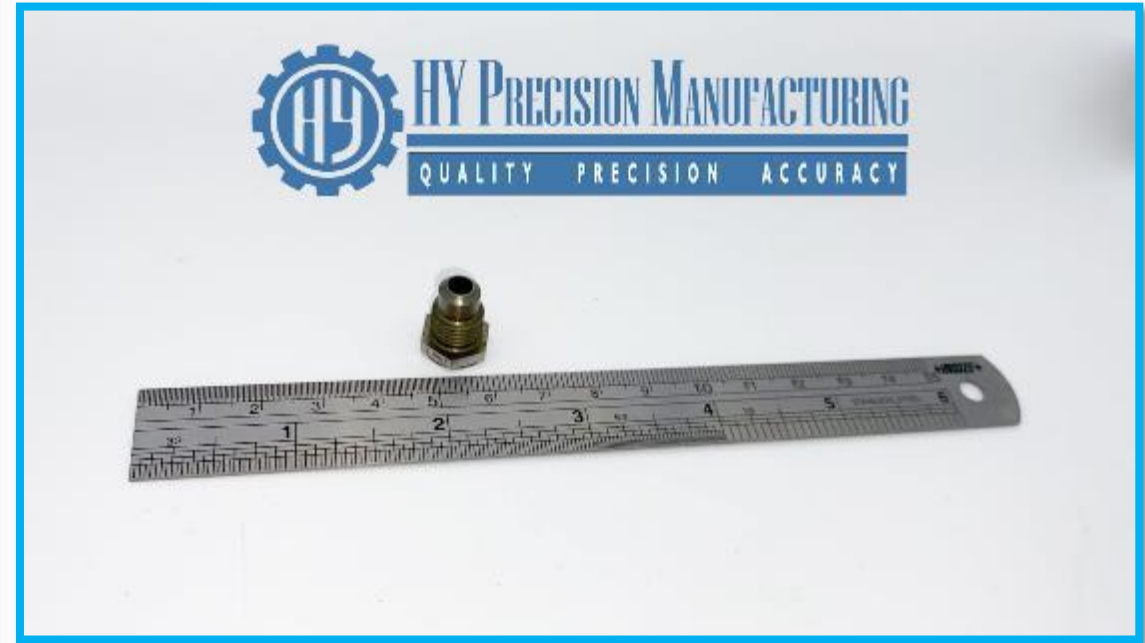
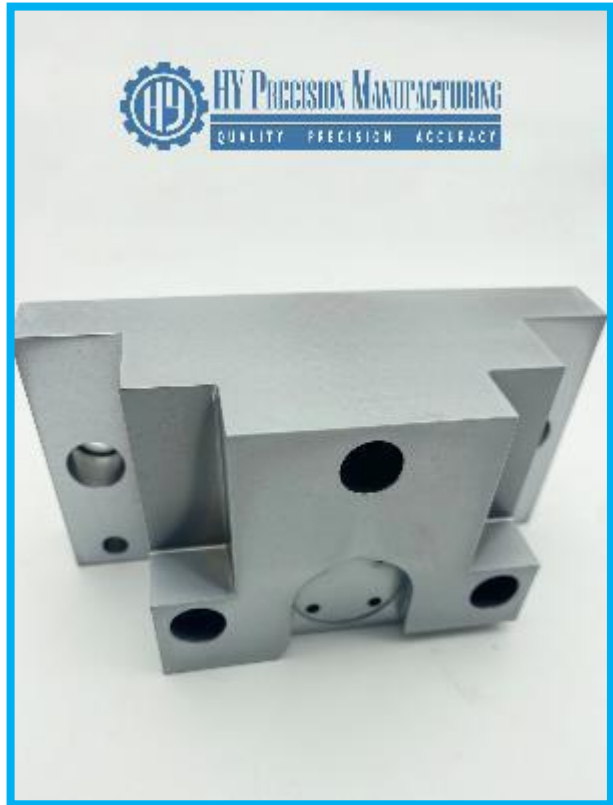
# DC53 Tool Steel HRC 45



# A2 Tool Steel HRC 54-58



# A2 Tool Steel HRC 54-58 (Hard Chrome)



# A2 Tool Steel HRC 54-58



# A2 Tool Steel HRC 54-58



# M2 Tool Steel



# D2 Tool Steel HRC 54-58





# O1 steel – HRC 48-52



# O1 steel – HRC 55-62



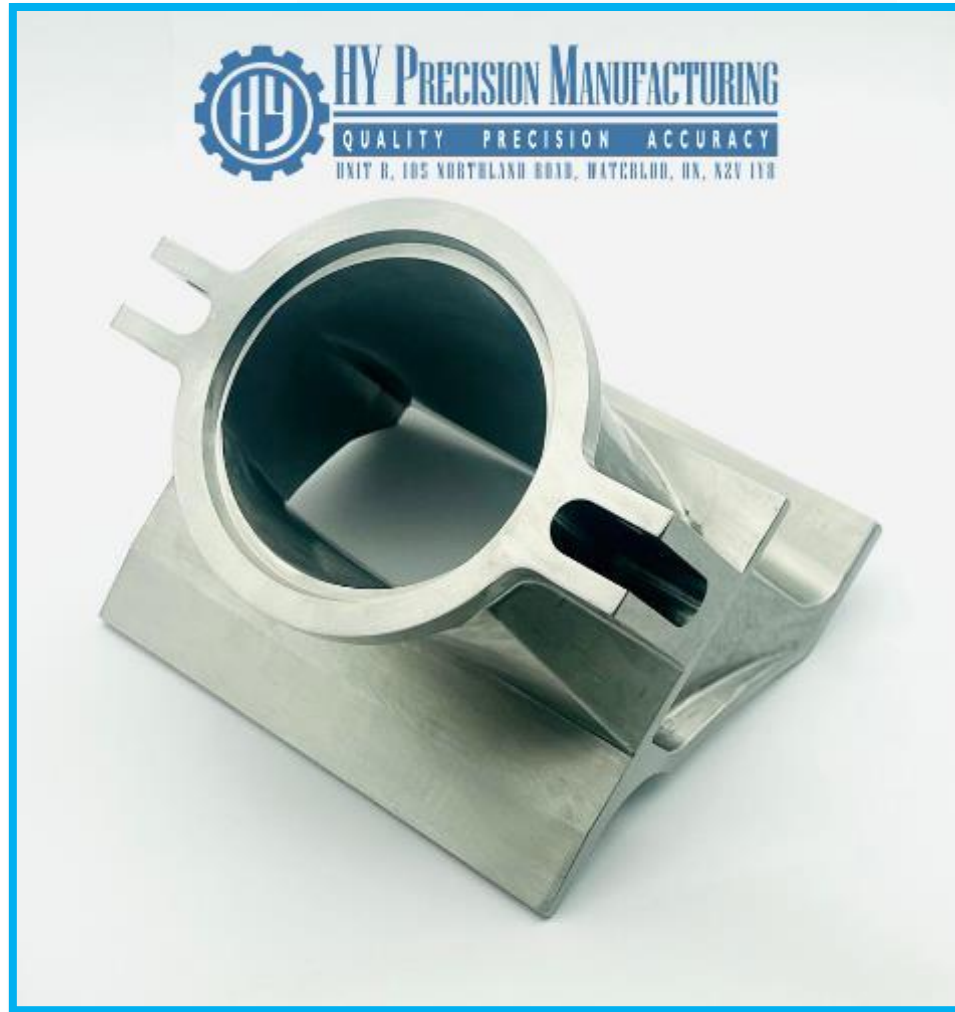
# S7 steel – HRC 52-54 (E-nickel coating)





**STAINLESS STEEL**

# 304 Stainless Steel



# 304 Stainless Steel



# 304 Stainless Steel



# 304 Stainless Steel



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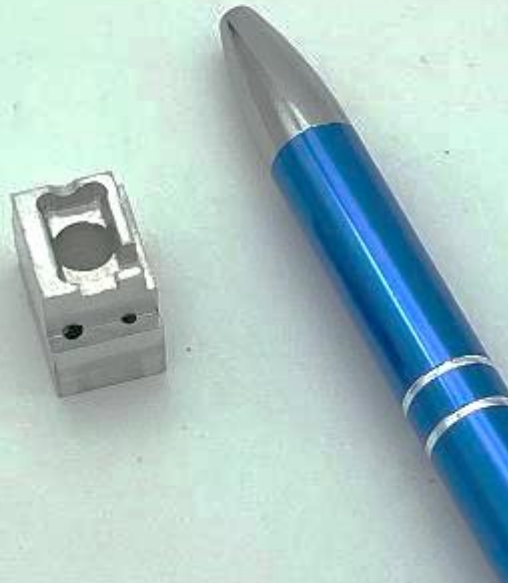
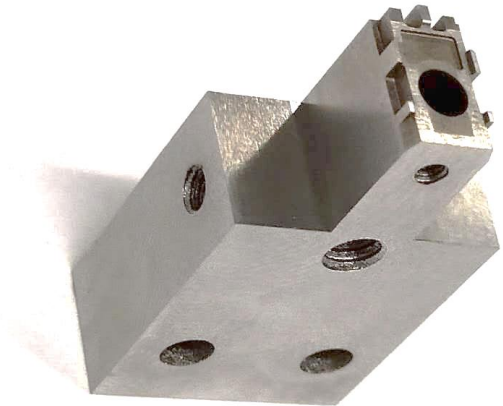
# 304 Stainless Steel



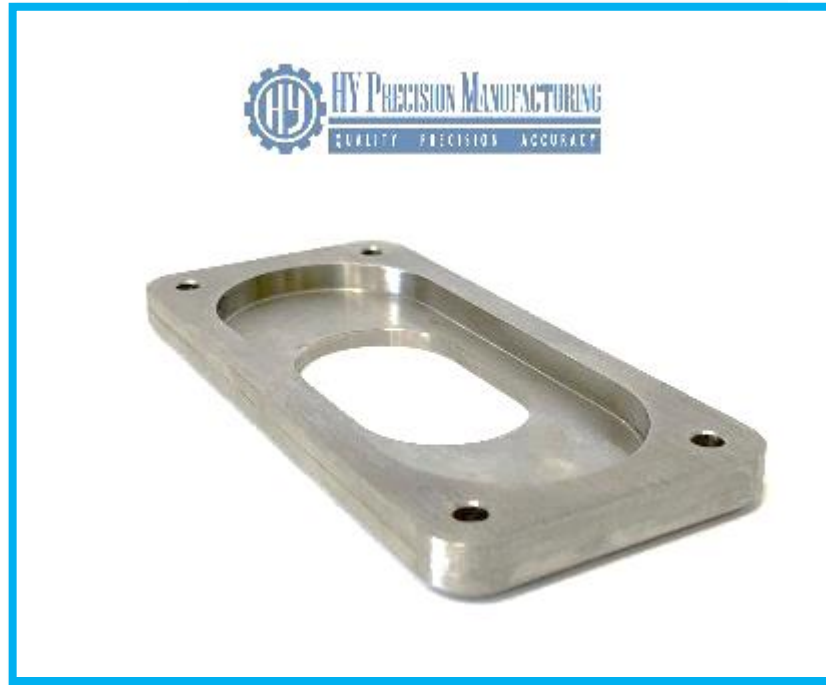
# 304 Stainless Steel



# 316 Stainless Steel



# 316 Stainless Steel



# 316 Stainless Steel



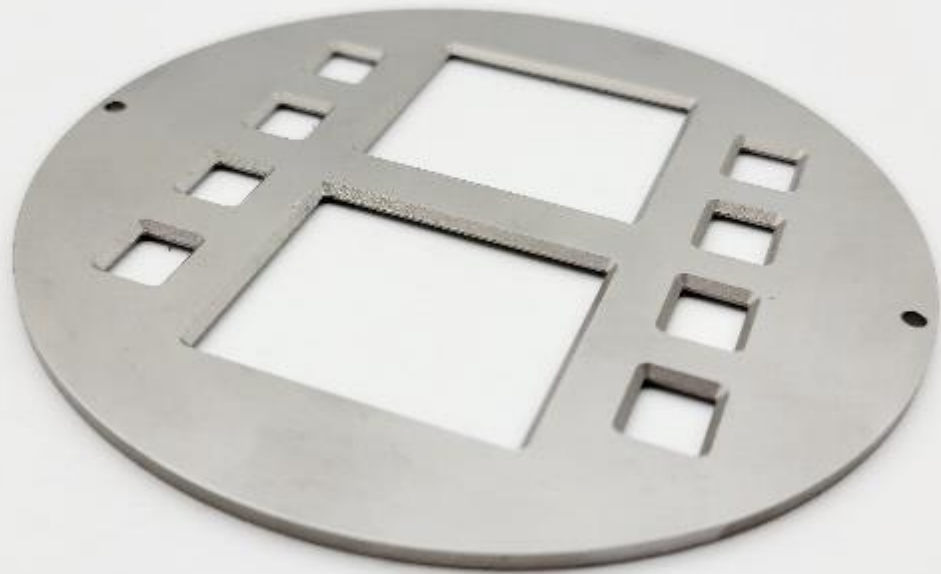
# 316 Stainless Steel



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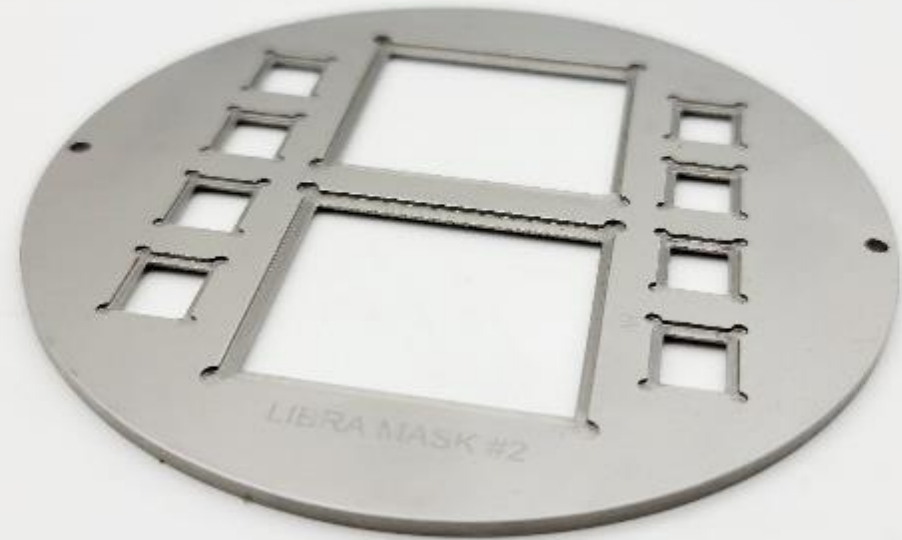
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# 440C Stainless Steel



# 416 Stainless Steel





# 17-4 PH Stainless Steel



# 17-4 PH Stainless Steel



# 17-4 PH Stainless Steel



# 17-4 PH Stainless Steel



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# 17-4 PH Stainless Steel



# 17-4 PH Stainless Steel

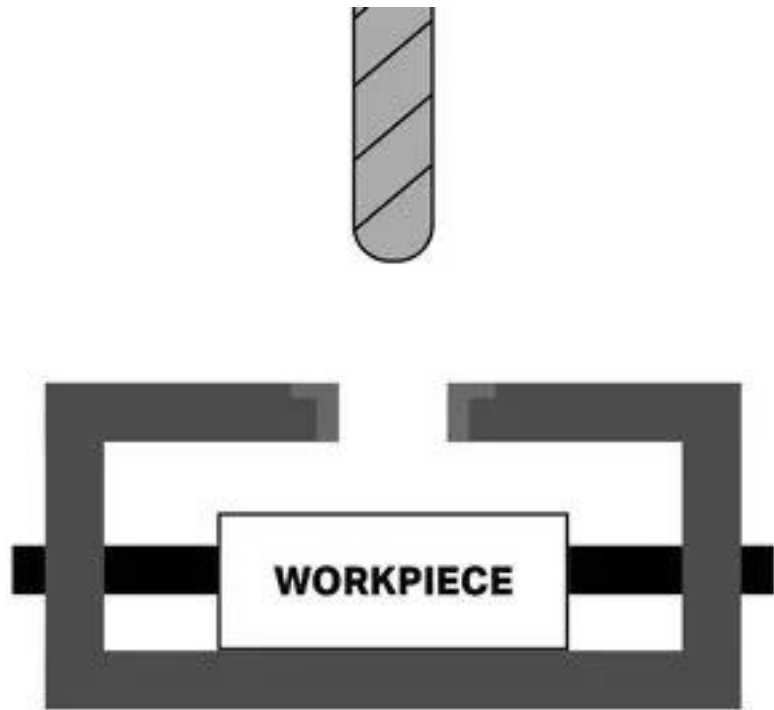


BRONZE

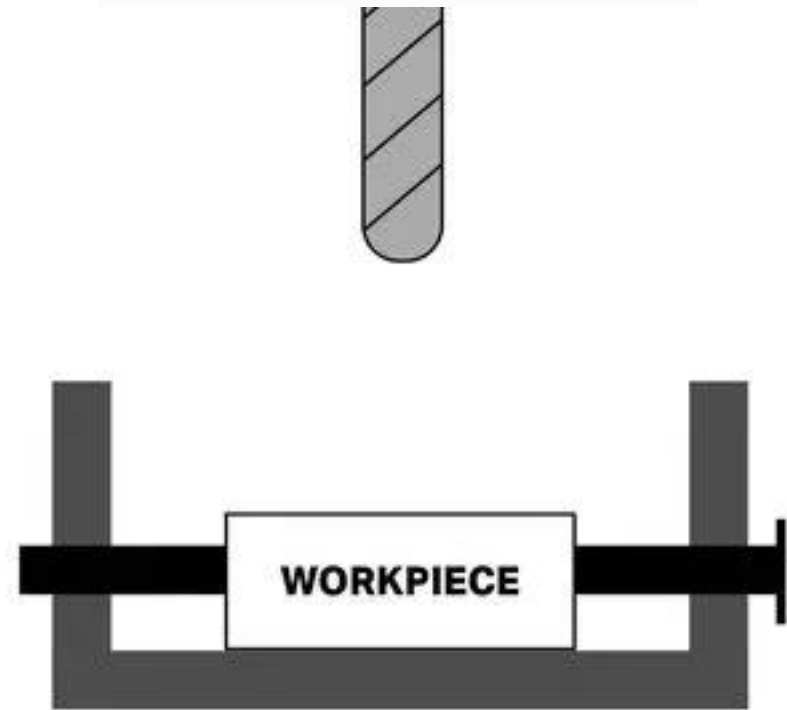
# BRONZE







**JIG**



**FIXTURE**

# QC Inspection Jigs – Go Gauge (Aluminium 6061 T6 and A2 Steel HRC 48-52)



# QC Inspection Jigs – Go & No Go Gauges

## Aluminium 6061 T6 and A2 Steel HRC 48-52



# **WELDMENTS AND MACHING**

# Weldments



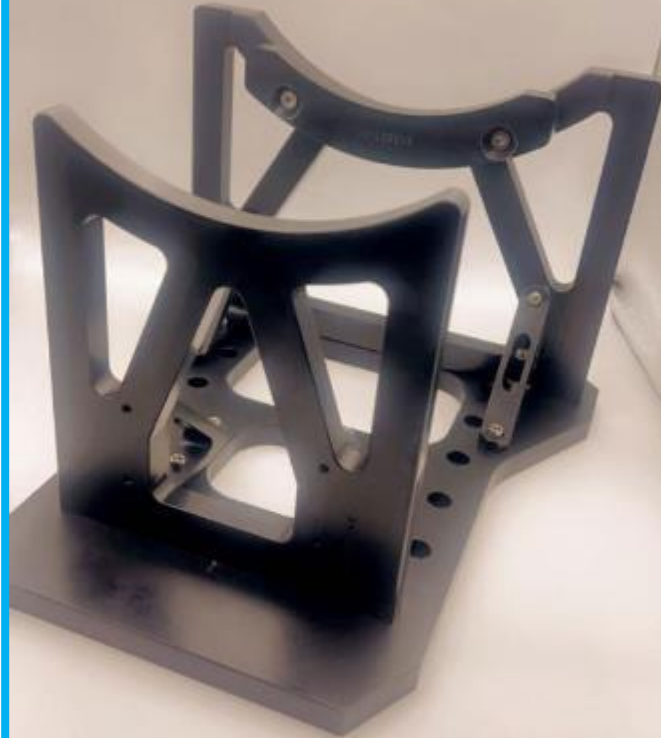
# **ASSEMBLIES**



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QUALITY PRECISION ACCURACY

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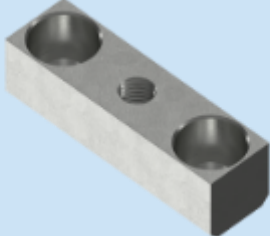


# **PLASTIC INJECTION MOLD**

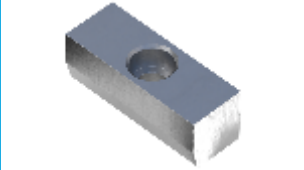
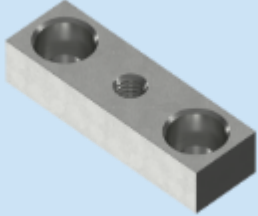
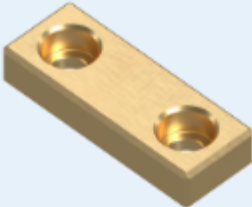
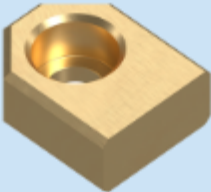
- **INSERTS**
- **STANDARD COMPONENTS**



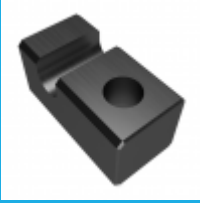

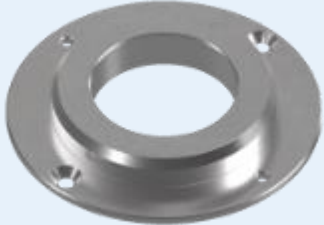
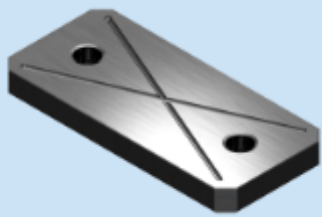
# Plastic Injection Mold Standard Components

	<b>Core Pin Back Plate/Wire Channel Cover Plates</b>	<b>CRS 1018, Black oxide coated</b>
	Wire Cover Plate	CRS 1018, Black oxide coated
	Plaque Book Holder	CRS 1018, Black oxide coated
	Lifter Retainer Key	O1 HRC 38-40



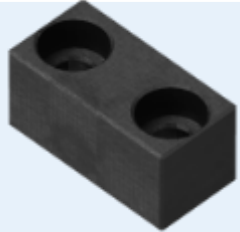
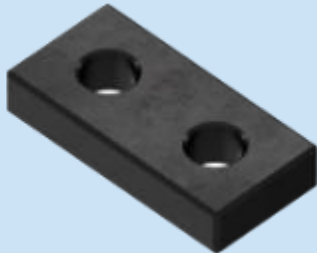
# Plastic Injection Mold Standard Components

	Single Screw Lifter Retainer Key	O1 HRC 38-40
	Lifter Retainer Key	HHP 20
	Lifter Rod Lock & Bushing Retainer	AL Bronze
	Lifter Rod Lock & Bushing Retainer	AL Bronze

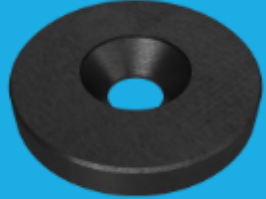



# Plastic Injection Mold Standard Components

	<b>Guide Rod Cover Plate</b>	<b>CRS 1018, Black oxide coating</b>
	SRG Locator	H13 Case hardened steel
	Locating Ring	O1 harden HRC 50-55
	CUSTOM PRESSURE PAD	Material of Your Choice Machined to Your Design Pre-Harden to Your Specification Both sides Pre-Ground Delivered Ready To Be Installed





# Plastic Injection Mold Standard Components

	Pressure Pad L Series	O1 harden HRC 50-55
	Knockout Rod Extension	Material of Your Choice Machined to Your Design Delivered Ready To Be Installed
	Slide Stops	CRS 1018, Black oxide
	Mold Straps	CRS 1018, Black oxide

# Plastic Injection Mold Standard Components

	Shoulder Plates	CRS 1018 Black oxide
	Cylinder Rod Lock	CRS 1018 Black oxide
	Hydraulic Yokes	CRS 1018 Black oxide
	Ejection Standoff & Ejection Stops	CRS 1018

# Plastic Injection Mold Standard Components

	Stop buttons / Ejector box stops / Stop spacers	Material: Round Bar Steel Grinding Stock: 0.005" grind stock on nominal dimension Thickness Tolerance: +0.005"/-0.000" Prevents ejector plates from crashing into mold.
	IMPERIAL HARDENED NITRIDED EJECTOR PINS	1.2344, H13, SKD61
	IMPERIAL NITRIDED SLEEVES	1.2344, H13, SKD61
	METRIC DIN HARDEN NITRIDED EJECTOR PINS	1.2344, H13, SKD61

# Plastic Injection Mold Standard Components

	Water Diverters	Solid Brass
	Split Bubbler Diverters	Solid Brass
	Split Bubbler Diverters	ALUMINIUM 6061
	CUSTOM DETAILED EJECTOR PIN MACHINING	1.2344, H13, SKD61

# CUSTOM DETAILED EJECTOR PIN MACHINING





# Thank you

For more product references, please visit our website  
[www.hpml.ca](http://www.hpml.ca)

QUESTIONS?

PLEASE FREE TO CONTACT US AT ADMIN@HPML.CA