

EDRO

MATERIALS | MACHINING | PVD COATING | ADDITIVE

PREMIUM ALLOYS AND SERVICES FOR **OPTIMIZED PERFORMANCE**



MATERION ALLOYS
& COMPOSITES



EIFELER PVD/DLC
COATINGS



BÖHLER AND VILLARES
METALS HIGH
PERFORMANCE STEELS



ADDITIVE SOLUTIONS



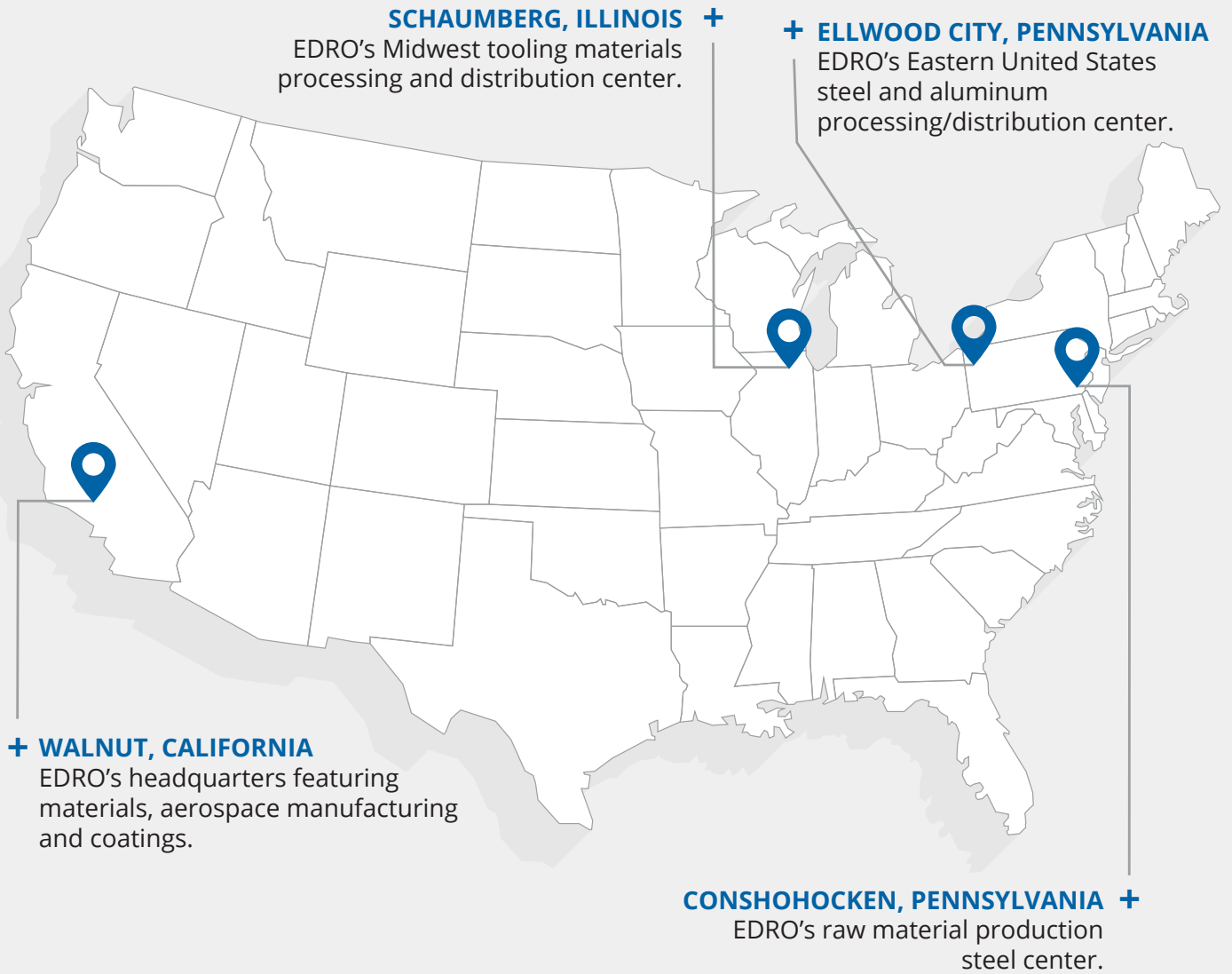

MATERION

 BÖHLER

 VILLARES METALS
a voestalpine company

 eifeler

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EDRO proudly offers products that can be applied to enhance racing performance and increase the life of powertrain components. From copper alloys to steel, coatings, and additive manufacturing, we help teams win races.

Our products have been proven in the top flights of motorsport with championships to show for it. Even though you may not see them, EDRO products are working hard to beat the competition.

Headquartered in Southern California with facilities in the Midwest and the East Coast, EDRO, a part of the voestalpine group, is able to provide you the customer service and quality for whatever project you're facing.

Bringing together stock from the BÖHLER mill in Austria as well as domestic products and services, EDRO is your North American distributor for the best in racing products.

OUR PRODUCTS



MATERION ALLOYS AND COMPOSITES



Almost every week, the winners of the major races have Materion materials in their engines. Materion's copper alloys excel at dissipating heat, reducing friction and protecting mating parts. The aluminum-based materials enable large reductions in reciprocating mass and extend the lifetime of moving parts.

BÖHLER STEELS/VILLARES METALS

The steel that motorsport teams need. Each and every step of production – from melting to delivery – is in the hands of our affiliated, state-of-the-art mills and that means the highest, most consistent quality for you. This is why BÖHLER and Villares are among the most reliable racing partners in the industry. With materials in use at the top levels of motorsport from Formula 1 to GT3 as well as NASCAR and NHRA there are BÖHLER and Villares grade to fit your every need.



COATINGS

Eifeler offers a wide range of DLC and nitride coatings to fit your needs. These coatings are proven to reduce wear and friction in the harshest industrial cutting tool, molding and metal forming applications, with superior adhesion and options for corrosion/oxidation protection. Eifeler coatings thrive in the types of high pressure conditions found in racing.

ADDITIVE MANUFACTURING

EDRO offers end-to-end additive manufacturing services, from high-purity BÖHLER powders to finished part production. Capabilities include component optimization, printing of a variety of steels, super alloys, aluminum and titanium, from prototypes to serial production volumes and post processing services such as machining, grinding, polishing and heat treatment.



GRADES, ALLOYS AND COMPOSITES

Steel/Nickel Grade	Commercial grade	Category	Melt	Bolt
M238 HH	P20	Alloy Steel	Airmelt	X
V124SC	4340	Alloy Steel	EAF/VAR	X
V132	300M	Alloy Steel	EAF/VAR	X
V180	300M SI	Alloy Steel	VIM/VAR	X
V358	E40CDV12	Alloy Steel	EAF/VAR	X
V361	E32CDV13	Alloy Steel	VIM/VAR	X
E108	S156	Case Hardening	Airmelt	
M121	1.5752	Case Hardening	EAF/PESR	
M130	1.2764	Case Hardening	Airmelt	
K490	CWTS	Cold Work/PM Steel	PM	
K600	1.2767	Cold Work/PM Steel	Airmelt	X
S390	T15 Mod	Cold Work/PM Steel	PM	
S690	PM M4	Cold Work/PM Steel	PM	
W360	H13 mod	Hot Work Tool Steel	EAF/VAR	X
W460	H13 mod	Hot Work Tool Steel	VIM/VAR	X
L625	Alloy 625	Ni-based alloy	VIM/VAR	
L718	Alloy 718	Ni-based alloy	VIM/VAR	
T200	A286	Ni-based alloy	EAF/ESR	
V723	Marage 250	Ni-based alloy	VIM/VAR	X
VAT751A	Alloy 751	Ni-based alloy	VIM/VAR	
VAT90	Nimonic 90	Ni-based alloy	VIM/VAR	
VVN80A	Nimonic 80 A	Ni-based alloy	VIM/VAR	
M390	Stainless 4XX	PM Stainless	PM	
M398	Stainless 4XX	PM Stainless	PM	
N700	17-4PH	Stainless PH	EAF/ESR	
N709	13-8PH	Stainless PH	VIM/VAR	X

Cu-/Al- based	Commercial grade	Category	Processing	Combustion prechamber	Con-rod
PerforMet	N/A	CuNiSiCr	Hot worked	X	
ToughMet	C72900	CuNiSn	Hot worked		
Alloy 10X	C17500 + Zr	CuBe	Cold drawn	X	
Alloy 3	C17510	CuBe	Cold drawn	X	
Alloy 25	C17200	CuBe	Cold drawn		
SupremEX 225CA	N/A	Al-SiC MMC	PM		X
AyontEX4632	N/A	Al hypereutectic	PM		

Steel/Nickel Grade	Cam shaft	Crank shaft	Con Rod	Drive shaft	Gears	Gudgeon pin	Tappet	Valves
M238 HH	X		X			X		
V124SC		X	X	X			X	
V132			X	X		X		
V180			X	X		X		
V358		X	X	X		X		
V361		X	X	X		X		
E108					X			
M121					X			
M130					X			
K490	X							
K600	X		X	X				
S390	X							
S690	X							
W360	X	X	X	X		X		
W460	X	X	X	X	X	X		
L625								X
L718								X
T200								X
V723		X						
VAT751A								X
VAT90								X
VVN80A								X
M390	X							
M398	X							
N700			X				X	
N709			X					

Cu-/Al- based	Con-rod bearing	Crankshaft bearing	Exhaust valve seat	Gearbox bearing	Piston	Piston rings	Thrust washers	Valve guides	Valve Spring Retainers
PerforMet	X		X	X		X	X	X	
ToughMet	X	X		X		X	X		
Alloy 10X			X					X	
Alloy 3			X					X	
Alloy 25	X	X						X	
SupremEX 225CA					X				X
AyontEX4632					X				



As a leader in PVD technology, EDRO eifeler coatings are used in the most demanding of applications and industries. We offers a wide range of options, including DLC and other coatings developed for the most extreme environments.



CARBON-X[®] (DLC)

LOW FRICTION EVEN UNDER TOUGH CONDITIONS

CARBON-X[®] is a new low-friction a-C:H based DLC coating from eifeler.

- + Outstanding wear resistance
- + Low friction
- + Reduced galling to mating components
- + Extended part lifetimes

EDRO can also deposit other PVD coatings including CrN, CrCN, TiN, TiCN and AlCrTiN.



ADDITIVE MANUFACTURING

Offering End-to-End Additive Manufacturing Services from powder to finished components. EDRO and sister company voestalpine Additive Manufacturing Centers in North America provide a ONE-STOP-SHOP developing solutions to meet our customers needs.



- + AMPO® Metal Powders from BÖHLER
- + Design/Engineering/Simulation
- + Serial and prototype part Manufacturing
- + Heat treatment, coatings and machining
- + Complete AM Solutions

ADDITIVE BUILD AND POST PROCESSING

We offer a variety of build technologies such as direct metal laser sintering and direct metal deposition. Capability to print a variety of steels and super alloys, from producing single prototypes to serial production. Post processing capabilities such as machining, grinding, polishing, heat treatment as well as coatings.



DESIGN, ENGINEERING, SIMULATION

Design expertise in multiple industries such as Die Casting, Injection Molding, Oil and Gas, Aerospace, and Automotive; as an example: conformal cooling applications. Capability to run various simulations such as FEA, CFD, heat transfer, plastic molding, metal forming, metal casting, metal extrusion, topology .



ALUMINUM PLATE

EDRO also offers Aluminum Plate of the following

ACP 5080

- + Developed and produced by technology leader Alimex
- + Cast plate manufactured to AA 5083 specifications
- + Up to 40" thick; ¼"- 14" thick in stock

AA 6061 T651

- + ¼" - 6" thick in stock
- + 50% stronger than T6 temper
- + Improved dimensional stability

AA 7075 T651

- + 1" - 7" thick in stock

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