



Hydro



Extrusion North America

Innovative
aluminum solutions

One company,
unlimited solutions



Unprecedented resources, product range and technical competencies

Complementary capabilities & logistical advantages of 23 North American locations with more than 65 presses

- Enormous competencies in design and technical support, mechanical and application engineering, metallurgy and project management, plus the resources of our Application & Advanced Development and Innovation & Technology teams
- Financial strength and stability as part of a global company with operations in 40 countries and more than 35,000 employees





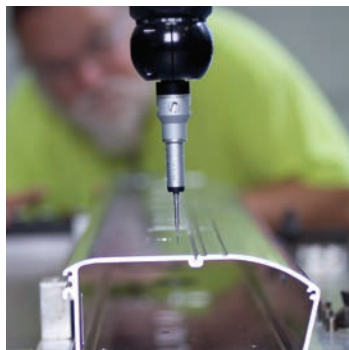
Everything you need to go from idea to assembled product

Hydro, the world's largest aluminum extrusion company, is the North American leader in common alloy extruded aluminum products.

From raw aluminum to assembled products, we offer the industry's broadest product capabilities in press sizes and tonnages (direct and indirect extrusion), alloy selection, circle sizes, and profile types.

- Production – Cast billet, die design & manufacture, and extrusion
- Fabrication – From cutting, forming, machining and joining to assembly and special packaging
- Finishing – Painting, anodizing, environmentally-friendly special coatings and high speed vertical powder coating

- Standard and custom shapes up to 22.5" circle size
- Seamless pipe and tube up to 15.375" O.D.
- Structural pipe and tube up to 8.625" O.D.
- Porthole drawn and seamless drawn tube
- Rod and bar, standard and specialty:
 - Rod up to 12.125" diameter
 - Square bar up to 8" thickness
 - Rectangular bar up to 18" width
- Heat sinks with fin ratios up to 40:1



Key Markets



Automotive

A driving force for the road ahead

Hydro's leading edge extrusion technology has become the innovative "driving force" in the automotive and e-mobility industries. We serve virtually every brand across North America and around the world with an extensive range of components and systems for cars and light trucks.

Application engineering, manufacturing and design specialists offer assistance with custom shapes, unique applications and solutions for your most demanding applications. Our fabrication facilities are fully integrated with the extrusion process to provide semi-finished and fully finished components and assemblies.

- Safety parts
- Engine parts
- High-finish trim
- Chassis components
- Seat components
- Structural parts
- Electrical parts
- ABS blocks
- Battery enclosures
- Body-in-white
- Crash management
- Suspension components



Trucks & transportation

Full scope support for vehicle design and manufacturing

Aluminum is the material of choice within the transportation industry. For manufacturers, opportunities for next generation shapes and aerodynamic designs create more end-user marketing opportunities. For end-users, the benefits of aluminum translate into greater savings in product efficiency, longevity and load capacity.

Hydro brings a history of transportation technology and technical achievement to North America. Hydro's years of experience in aluminum profiles has proven superiority with a full range of fabrication and assembly services; from Friction Stir Welding to sub-assemblies to complete structures. We look forward to developing turnkey solutions for your requirements.

- Commercial truck/trailers
- Truck bodies, truck chassis and equipment
- Mass transit
- Bus vehicles
- Marine industries
- Rail systems



Architectural

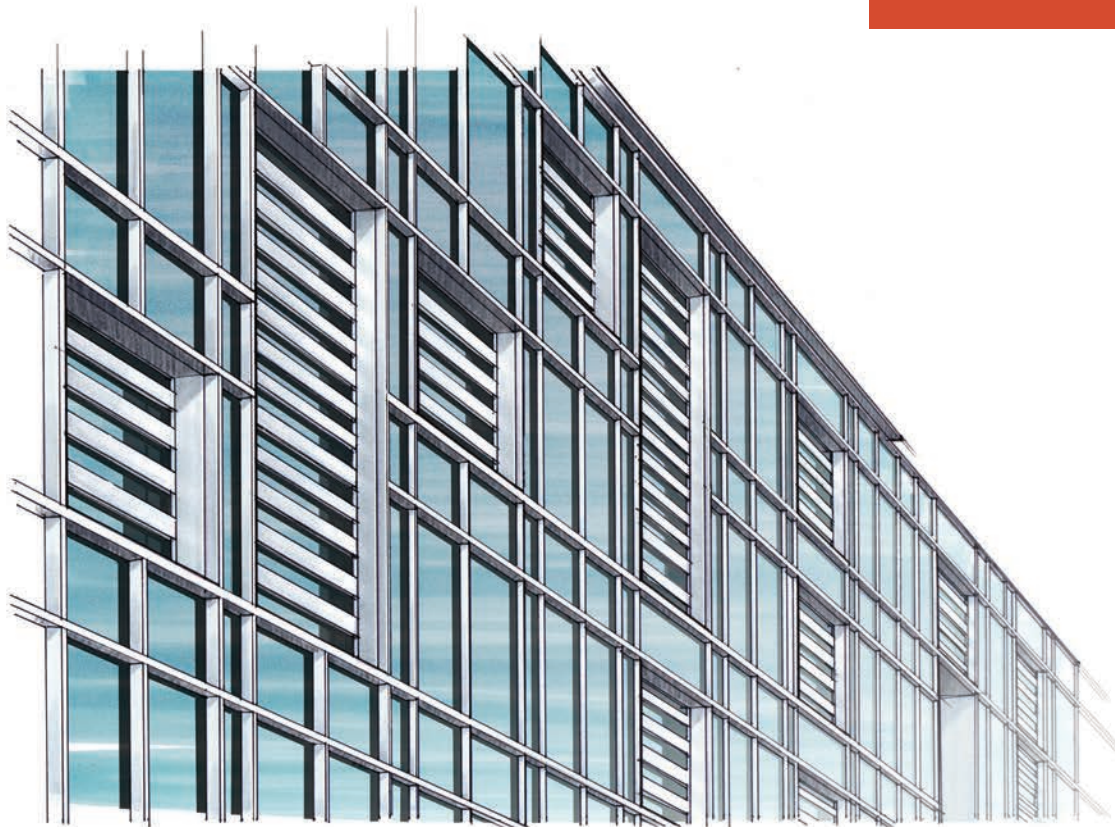
Extruded aluminum products for every architectural requirement

Hydro offers the widest choice in standard and custom extruded aluminum products for every architectural requirement.

Complementing our advanced production facilities, we provide complete project management and sales support.

- Engineering expertise to assure the right application, best design and correct fit
- Advanced painting facilities (including high speed vertical powder coating line), anodizing and special coatings
- Complete fabricating services from precision cutting to semi-finished and fully finished parts and assemblies that meet AAMA Specifications and CSI codes
- Order coordination to assure on-time delivery of the exact quantities required including sequenced deliveries

- Curtainwall
- Railing systems (including aluminum and glass combinations)
- Panel and sun control systems
- Architectural components including column covers, decorative trellis, sun control systems, access gates, privacy panels, divider panels and ornamental fencing
- Storefront systems
- Thermal Barrier manufacturing capabilities in chemical gill & debridge and Iso-Bar
- Window and door framing systems and components
- Walkway covers
- Spectator seating



Distribution

The leader in supporting our distribution partners

Hydro offers the industry's largest choice of extruded shapes (standard and custom), seamless and structural pipe & tube, drawn tube and standard and specialty rod and bar. Our North American network of production and supply facilities can satisfy all of your extrusion requirements with the industry's most responsive stocking

and accelerated delivery program, enabling our customers to satisfy last minute sales opportunities and respond to changing market conditions. We have exceptional capabilities in extruded sizes, alloys and tempers, including our ACC-U-LINE™ aluminum extruded rod, bar, and hex products.

We offer these value-added services:

- For expedited response, we maintain a depot inventory of many standard profiles, marketed by Service Centers
- Market and technical training
- Integrated capabilities for fabrication, assembly, painting, finishing and special packaging



Renewable energy

Unlimited solutions to harness limitless resources

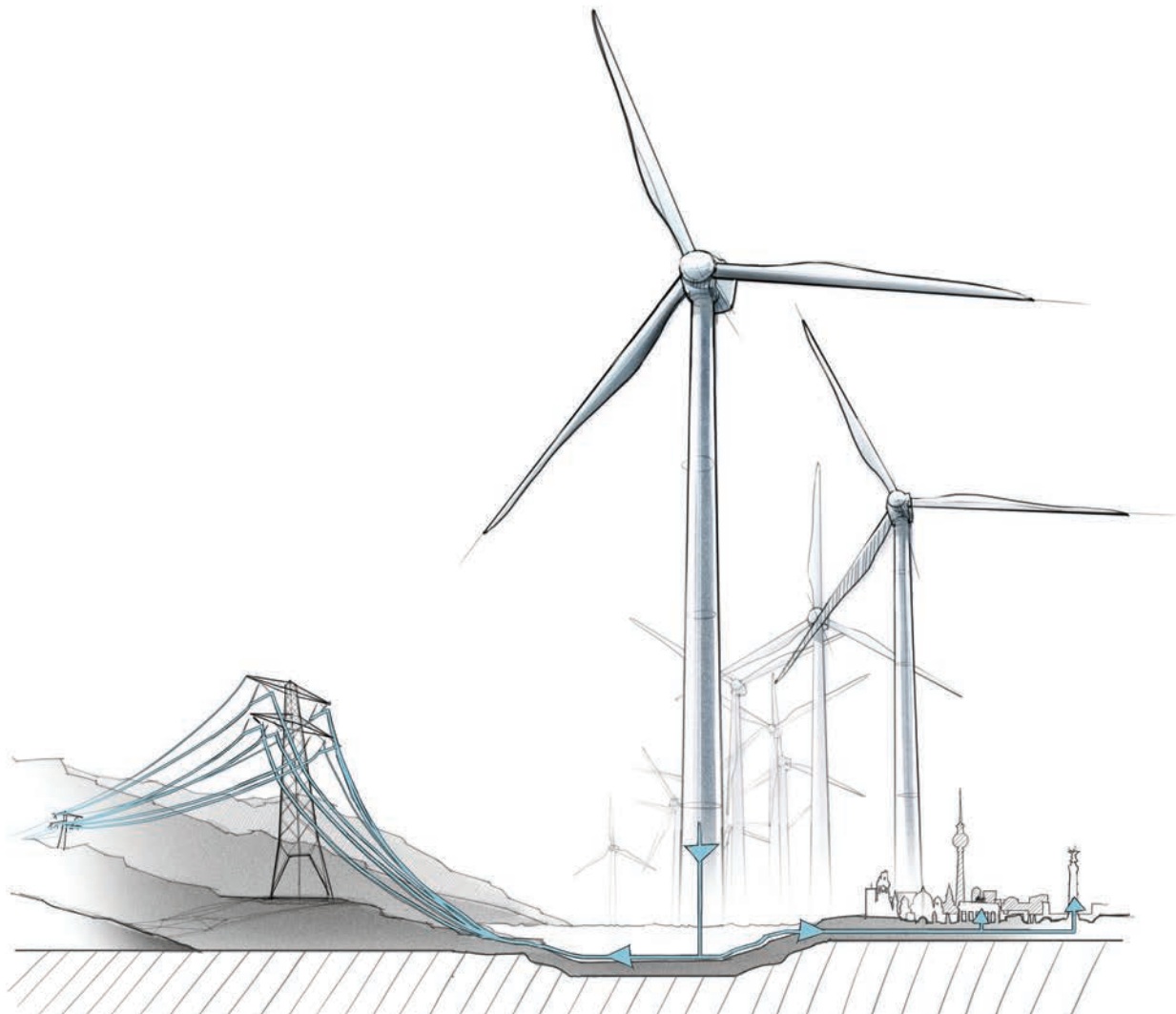
With renewable energy's global growth, choosing the right development partner is critical. Hydro offers the knowledge, capacity and quality to provide the best solutions for its customers.

Our manufacturing processes take advantage of aluminum's unique properties: recyclability, light weight, high strength, natural corrosion resistance and ease of fabrication; making it the material of choice over galvanized steel and other materials.

Plants throughout the U.S. and Canada enable Hydro to meet local content requirements with efficient logistical solutions in:

- Large circle size and multi-void hollow extrusions, and complex profiles
- A wide range of alloys and surface finishes
- Single-source fabrication
- Component assembly, kitting and logistics
- Product development

- Photovoltaic mounting systems
- Solar module frames and components
- Concentrated solar collector frames
- Inverter housings and components
- Turbine mounting brackets and frames
- CSP structures



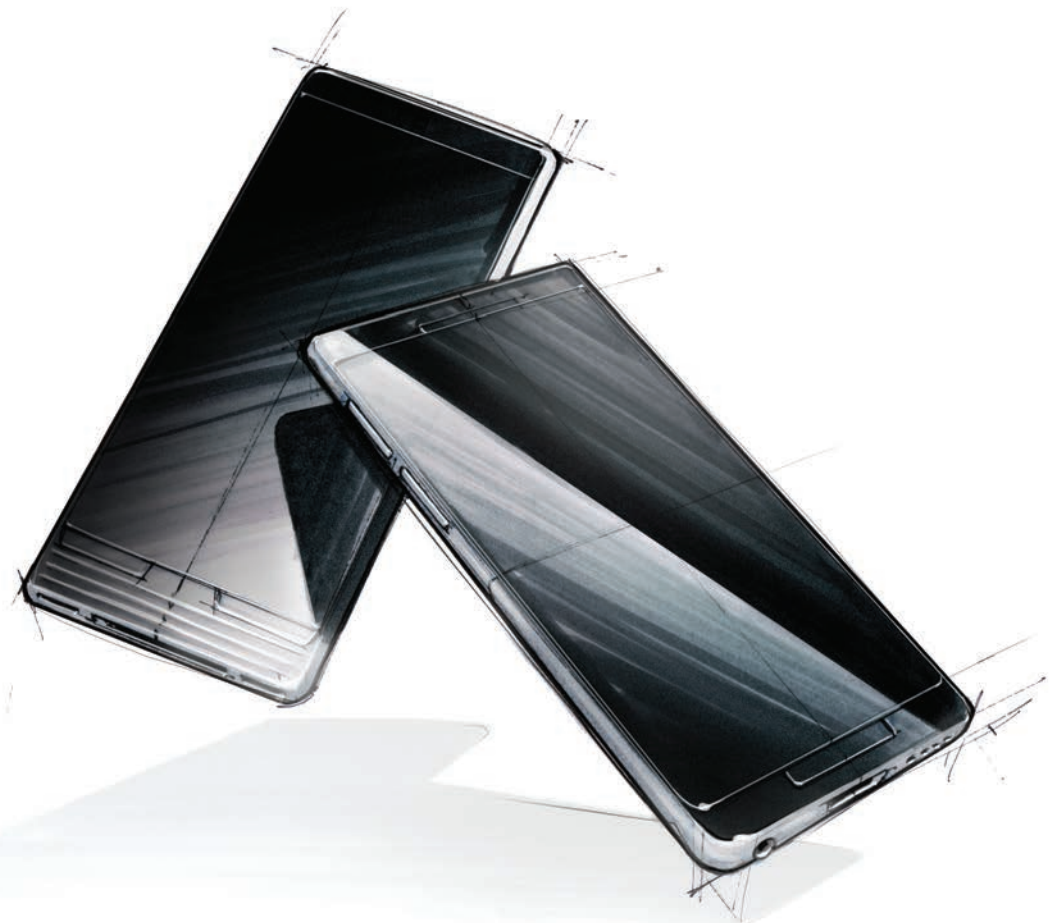
Industrial & consumer products

Solutions for every need

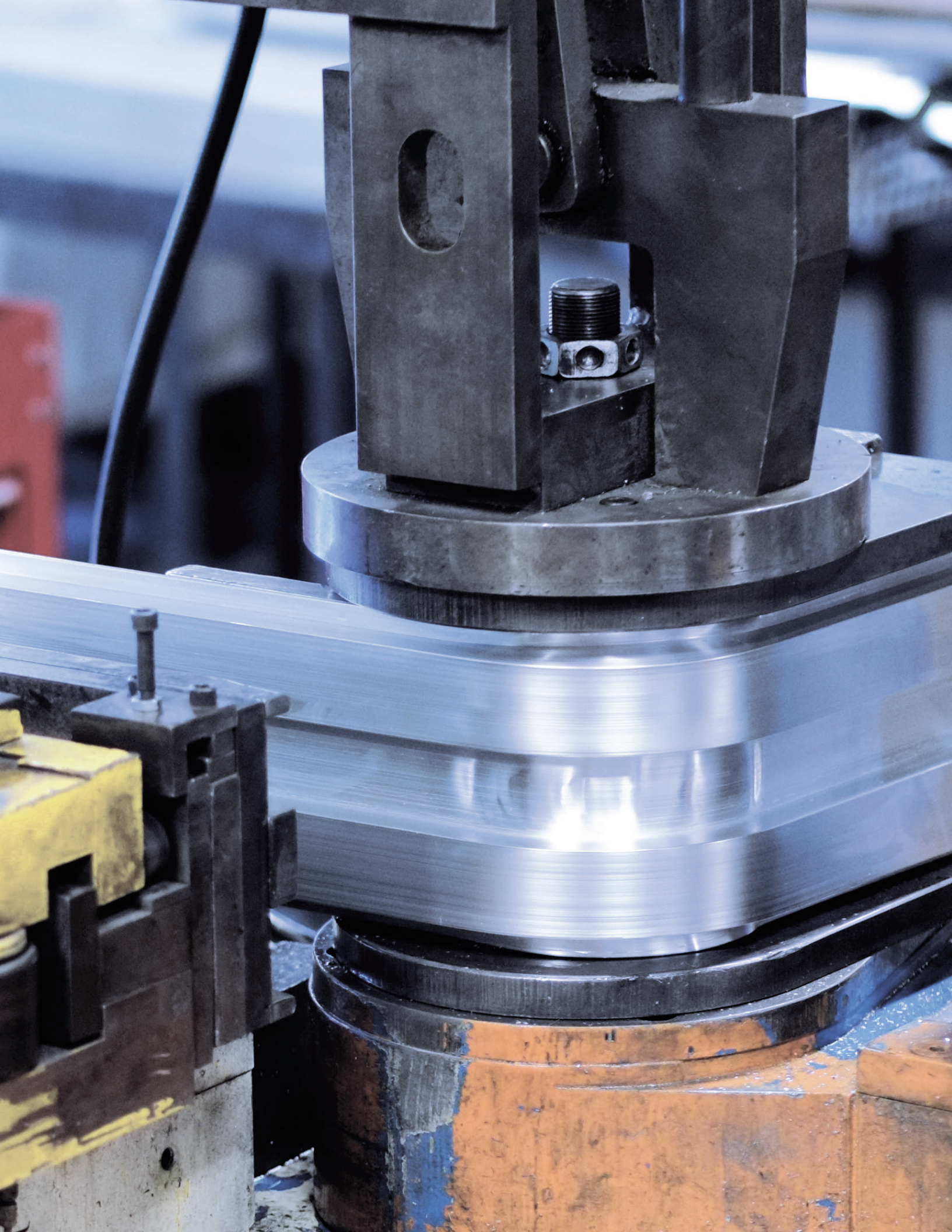
Hydro is the world leader in aluminum extrusion for virtually every industrial and consumer market. In-house facilities for casting and metal treatment guarantee billet availability and expedited delivery of specialty products. Our expertise in application engineering, manufacturing, and design can lower your production costs, improve product design and add aesthetic appeal to products in a wide variety of industries. We provide everything you need to go from concept to completion.

We offer the industry's broadest product line with an unmatched choice of alloys, circle sizes up to 22.5" and complete fabrication services in standard and specialty products:

- Standard and custom extruded shapes (solid, semi-hollow, and hollows)
- Tube, pipe – (structural & seamless), mechanical seamless tube, thin wall superior quality construction tube, square and rectangular tube
- Porthole drawn and seamless drawn tube
- Heat sinks (standard & high-fin ratio)
- Electrical bus conductor – tube, bar, extruded shapes
- Slip-resistant DIAMONDBACK® systems



Core Capabilities



Custom extrusion

Leading supplier of custom extruded profiles for virtually every market

From cost-effective, precision extrusion for manufacturing, to engineered and fabricated custom shapes for consumer products and appliances, no one offers more choices and greater value.

In-house facilities for melting, casting and metal treatment guarantee billet availability and expedite delivery of

specialty products. Our continued investment in advanced equipment includes a metallurgical laboratory and process systems that provide optimum control of alloy chemistry. Hydro products assure high standards for repeatable mechanical properties and specialized alloy grades with superior machinability and formability.

- Standard and custom extruded shapes (solid, semi-hollow and hollows)
- Tube, pipe – (structural & seamless), mechanical seamless tube, thin wall superior quality construction tube, square and rectangular tube
- Porthole drawn and seamless drawn tube
- Heat sinks (standard & high fin ratio)
- Electrical bus conductor – tube, bar, extruded shapes



Fabrication

Nationwide network of full-service fabrication capabilities

We provide complete fabrication services through our North American network of facilities. That includes full-service capabilities, technical services and close coordination to assure that each project is completed economically and with the utmost quality. Hydro's single-source capabilities also mean a shorter lead-time for our customers with on-time delivery that corresponds to their schedule.

We have extensive experience with many diverse product applications

in transportation, building and construction, consumer durables, medical and renewable energy markets.

Value-added fabrication services include:

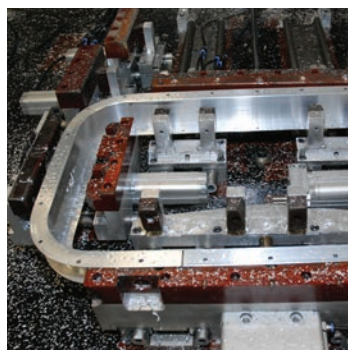
- Drilling, tapping, punching
- Precision cutting
- Beveling/chamfering/knurling
- Forming
- CNC bending and machining
- Stretch/roll forming
- Assembly and packaging

Joining capabilities include:

- Joint screws and snap fitting
- Riveting/bolting
- Welding, including FSW
- Adhesive bonding

Product development services:

- Structure/application analysis
- Prototyping
- Expert design assistance
- Concept development



Finishing, painting & powder coating

No one offers more finish choices

Hydro specializes in the application of high-performance coatings on aluminum products for every commercial, consumer and industrial market.

Hydro's high-capacity systems are designed to paint and anodize the newest generation of coatings. High-capacity vertical powder coating lines can accommodate very large volumes with short lead-times to produce an unbeatable product. High-speed conveyor systems for electrostatic paint application can complete projects up to

29 feet in length. As a licensed applicator for all major paint manufacturers, we offer the greatest selection of premier coatings and colors.

Our painting facilities include:

- 10 paint lines – both liquid and powder coat
- Large selection of acrylic enamels and polyester paints
- Color matching & blending system utilizing multiple interfaced computer and color spectrometer systems

For the latest anodized finishes, we offer facilities for:

- Parts up to 31.5 feet in length
- Sulfuric acid anodizing in clear, organic, inorganic dyed finishes
- Caustic and acid etch capabilities
- Architectural bronze finishes (electrolytically deposited color)
- Hard-coat anodizing



Drawn tubing

The right process for your demanding tube applications

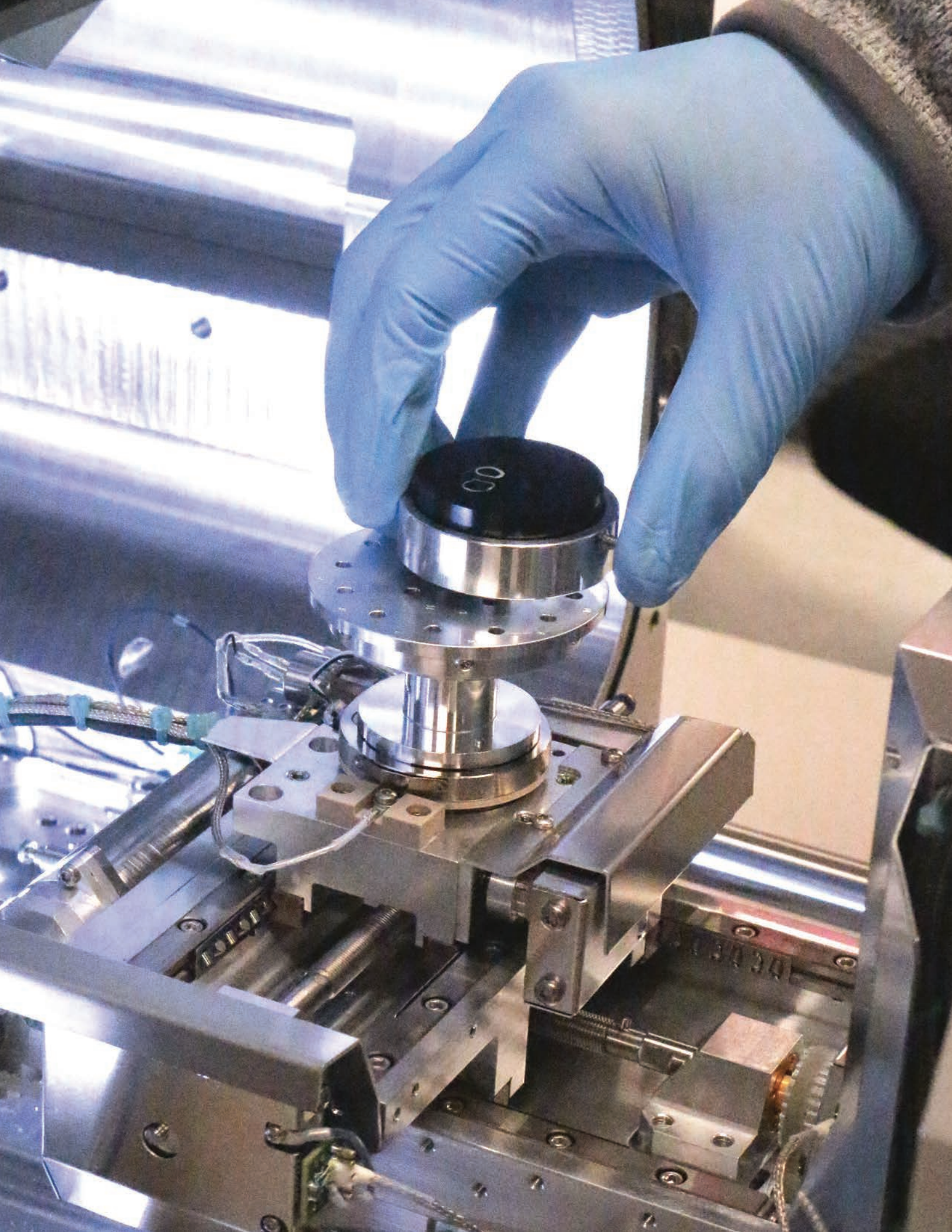
Hydro is the North American leader in porthole drawn tubing and today produces more porthole drawn tubing than anyone else. We have unmatched capabilities and over 40 years of aluminum drawn tube experience. We can produce high-quality porthole and seamless drawn tubing to match all of your design requirements and help your product succeed.

When an application requires high strength-to-weight ratio, exceptional dimensional control, and superior surface finishes, drawn tubing is the answer. Drawing enhances the bending, flaring, and formability of the tube, allows for better ovality control, and enhances machinability.

- Largest drawn tubing producer in North America
- Porthole and seamless drawn tubing capabilities
- Strategically located facilities in Florida and Arizona
- Collaboration on all phases of product design and development process
- Adjacent casthouses can customize alloys for optimal drawn tubing performance
- ISO-certification and well developed quality control systems assure consistent quality



Support



Product design & development

Unequaled technical support

Hydro's North America technical and engineering staff provide unequalled technical support in product design and development for Hydro's North American operations. Our experienced team includes specialists with engineering, marketing, management, machining and product design backgrounds. We provide innovative solutions for new end-use applications that benefit our customers.

Dedicated to customer value
Customers want solutions that reduce their costs, decrease lead time and increase the value of their products in the marketplace. Hydro teams optimize customer value

through combined knowledge, experience and technical competence. They are trained to quantify the value of competing approaches to satisfy exact customer requirements, affording our customers a competitive advantage.

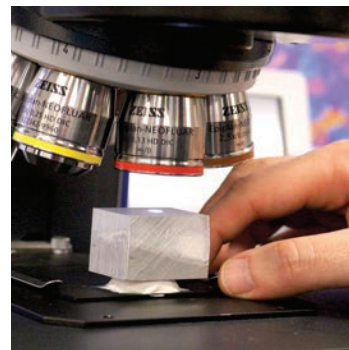
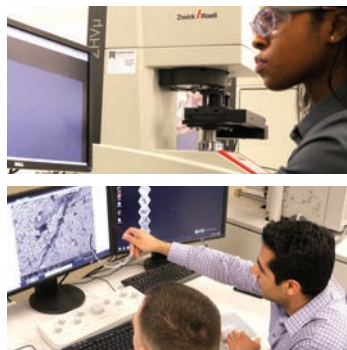
Profile Academy

Want to learn more about designing with aluminum? Join us at Hydro's Profile Academy. Presented by Hydro experts and qualified external lecturers, this advanced three-day course is designed to demonstrate capabilities of, and opportunities with, aluminum.

www.aluminumeducation.com

Hydro can provide complete project management to guide you every step of the way from concept through completion.

- Technology Transfer – Direct access to Hydro's enormous worldwide capabilities can transfer production technology to supply products worldwide for global demand
- Design – Expertise to create cost-reducing, corrosion resistant, sustainable, lightweight products in aluminum
- Prototyping – A dedicated on-site prototyping cell allows customers to physically examine new concepts
- Testing and Analysis – Advanced research and analysis capabilities with computer simulations and modeling



North American plant network

Hydro operates 23 locations with more than 65 presses strategically located throughout the U.S. and Canada. We offer unprecedented resources for the design, manufacturing, fabrication and finishing of common alloy aluminum

extrusions. From raw aluminum to assembled products, we have everything you need to go from concept to completion. With the integration of our unique assets, competencies and capabilities, we serve customers more efficiently.





Hydro

We are aluminum

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