

# COMMUNICATION STRUCTURES

Delivering Solutions for Your Wireless Tower Needs



**valmont**   
COMMUNICATION STRUCTURES



# ENGINEERED SUPPORT STRUCTURES



**Now a global network of 50 facilities spanning 15 countries, Valmont Industries consists of Engineered Support Structures, Utility Support Structures, Coatings, Energy and Mining and Irrigation.**

Valmont began in 1946 with the \$5,000 investment and entrepreneurial vision of Robert B. Daugherty after his return home from the war. With the newfound determination to build his “American Dream,” Daugherty worked for over a decade with engineers to develop the most reliable agricultural irrigation complete with electric drive systems. By 1959, Valmont’s refinement of the manufacturing process for steel pipe and tubing led to growth in other markets requiring durable structures.

Today, our relentless commitment to anticipating new processes, building more plants, and providing complete in-house services for all project stages, has made Valmont Industries the industry-recognized brand for quality and cost effectiveness.

As a respected leader, our trusted engineers are on a variety of national committees designed to implement and govern industry regulations, raising any standards as high as our own.



# unparalleled resources

Incorporating sustainable materials and forward-thinking business practices

A man with a full white beard and glasses is working in a workshop. He is wearing a brown patterned cap and a dark long-sleeved shirt. He is holding a yellow measuring tape against a large metal object. The background shows a workshop environment with various tools and equipment.

# delivering diverse resources

We provide the highest level of service

# THE VALMONT PROMISE



**Valmont's structures touch millions of lives around the world, day and night. From stop lights to street lamps, communication towers to utility poles, we provide a sense of safety and connectedness people depend on.**

Our extensive in-house capabilities, combined with our complete line of engineering and inspection services, allow for superior quality control and the best lead times in the industry.

Valmont demonstrates responsibility at every stage of the process. Our recycling capabilities ensure we reuse 100% of steel, aluminum, and composite materials, as well as the zinc used during galvanizing.

# ENGINEERING CAPABILITIES



**With decades of experience designing towers with superb structural integrity, we serve our customers by meeting the growing, modern-day demand for tower infrastructure and specialized engineering expertise.**

Our tower and monopole products are renowned for their durable designs and serve as the backbone for modern wireless communications. With design, production and customer service operations in Plymouth, IN, and Salem OR, we provide licensed engineer sealed prints for all 50 states. Further, with our global presence, we are uniquely qualified to serve our international customers by offering local technical expertise backed by global design, engineering and production resources.

A full-page photograph showing a worker in a protective suit welding inside a large, dark industrial structure. The worker is positioned in the center, viewed through an octagonal opening. Bright sparks from the welding process illuminate the scene. The structure's interior is dark, with light reflecting off the metallic surfaces. A green horizontal bar is at the top, and a white bar is below it, both containing text.

using the best materials wisely

Valmont creates structures for tomorrow's world

## SELF SUPPORTING TOWERS

# ENGINEERED FOR DESIGN FLEXIBILITY



**Engineered for excellent value and design flexibility, Valmont's self supporting towers employ a variety of components to configure reliable structures meeting the needs of many of today's wireless tower installations.**

For optimal customer value, Valmont engineers select single-member legs or a combination of single-member and truss-style legs, depending on the tower mission and customer specifications. Depending on load and environmental requirements, tubular legs or solid rod legs or a combination of both components are integrated into the structure's design.

- Durable materials in a flexible design for long tower life at a great price.
- Single member sections reduce ice accumulations and minimize wind loads.
- Efficient shipment, storage and assembly further enhance customer value.
- Component sections are pre-engineered and detailed to ensure quick drawing turn-around which may expedite local permitting processes.
- Heights up to 600' are available.



# SUPPORTING COMMUNICATION LOADS



**For supporting microwave dishes and other heavy-duty wireless communication loads, Microflect™ self supporting towers feature a robust construction, which meet or exceed the latest ANSI/TIA standards.**

Featuring a X-braced structural design and strong pipe legs, Microflect towers are also ideal for sites which support essential services and emergency communications gear.

- Three or four leg designs.
- Ideal for a wide variety of applications, loads and environments.
  - Light to heavy duty microwave applications.
  - Radar and other custom structures.
  - Customer types include public agencies, utilities, FAA and others.
- Pipe diagonals bracing to accommodate heavy antenna loading.
- Platforms and catwalks available for almost any elevation.
- Step bolts, climbing ladder or internal/external stairways for climbing.
- Hot-dipped galvanized to ASTM 123 specifications after fabrication.
- Welded by AWS D1-1 certified welders in an AISC certified plant.
- Licensed engineer sealed prints (P.E./S.E.) available for all 50 states.
- Offered in heights up to 500 feet.

**valmont**   
MICROFLECT

## SELF SUPPORTING TOWERS

# A SMART WIRELESS TOWER INVESTMENT



**Valmont PiRod® self supporting towers are ergonomically designed, making the climbing and servicing of the towers easier and safer.**

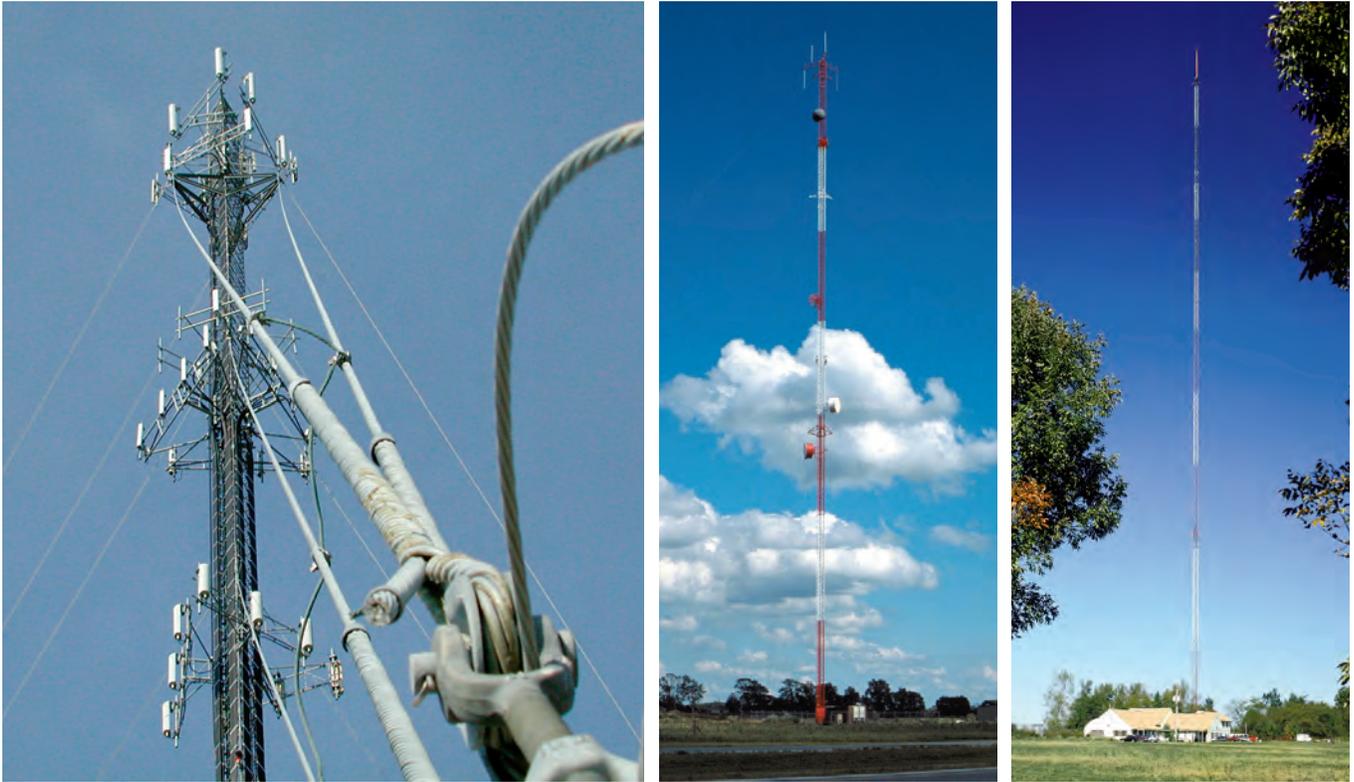
Featuring a durable solid-rod lattice construction, PiRod self supporting towers provide excellent corrosion resistance for long-term performance and superb structural integrity.

The uniform sections ensure quick assembly in the field, which may reduce installation expenses. Further, the sturdy design is inherently maintenance-friendly, as personnel can quickly scale the lattice construction. From initial installation throughout the entire life cycle, PiRod self supporting towers are a smart wireless tower investment.

- PiRod custom-engineered towers are a great choice for heavy loads and windy, icy or other extreme environments.
- Solid rod design offers superior corrosion resistance.
- Provides low wind drag while delivering exceptional strength.
- Hot-dipped galvanized to ASTM 123 specifications after fabrication.
- Standard hardware includes ASTM A-325 high-strength bolts, heavy-hex nuts and lock washers.
- Welded by AWS D1-1 certified welders.
- Licensed engineer sealed prints (P.E./S.E.) available for all 50 states.
- Heights up to 600' and base width up to 60'.

**valmont**   
PIROD

# CUSTOM-DESIGNED CONFIGURATIONS



**PiRod® guyed towers are custom-engineered and manufactured to meet a variety of application requirements and are available in all-welded section configurations.**

**ALL-WELDED TOWERS** feature solid rod construction. Face widths of 30", 36", 48" and 60" come with foot-pad connections while face widths of 18" and 24" feature pin and cup connections. Tower heights up to 1,000 feet are available.

Valmont's experienced engineering team utilizes proprietary computer-aided design software to craft structures known for their durability and structural integrity. During the design process, the Valmont team carefully analyzes specified needs and builds in the capabilities to handle the following considerations:

- Terrain, wind and ice-loading site conditions.
- Strength and versatility criteria.
- Antenna and transmission line mounting specifications.
- Climbing provisions and safety equipment needs.
- Future loading elements due to impending co-location installations.
- Licensed engineer sealed prints (P.E./S.E. available for all 50 states).

**valmont**   
PIROD

# MEETING ZONING REQUIREMENTS



These poles can be custom-designed for a variety of single or multi-user configurations and in a wide variety of finishes to meet local aesthetic and zoning requirements.

**MONOPOLES** - Combining engineering expertise, high-quality manufacturing practices and an economical slip-joint design, Valmont's 18-sided monopole towers are available in heights up to 300 feet.

- Each shaft section is a constant-tapered hollow steel section up to 53 feet in length.
- Poles can be designed with slip joints or flanged connections.
- Pole shafts are fabricated from low-alloy, high-strength steel.
- All poles are hot-dipped galvanized after fabrication per ASTM A-123.
- Foundation designs are included per customer-furnished soils report.
- A formal stress analysis and drawing package is provided for building permit submissions.

**PORTABLE BASES** - Valmont's portable base poles are suitable for temporary or semi-permanent installations and permanent sites where a conventional foundation may be impractical. Portable base poles may simplify zoning and permitting processes for fast site deployment. The base and monopole can be erected typically in a single day on crushed stone or blacktop to level the surface as well as provide adequate drainage.

# MINIMUM VISUAL IMPACT STRUCTURES



**Take a second look at our full line of decorative Minimum Visual Impact (MVI) structures, combining aesthetically pleasing designs with the latest technological advancements.**

As an originator in disguised wireless structures, Valmont offers creative solutions designed to blend in with the landscape and surrounding environment while obscuring antennas and wiring from view.

Valmont has the ability to create structures to look like or function as sign posts, flag poles, light poles, water tanks, pine trees or clock towers.

# AN ACCOMPANIMENT TO MACRO SITES



**Valmont structures provides small cell tower and distributed antenna system (das) solutions for outdoor coverage.**

Our unrivaled expertise in lighting, traffic, and wireless structures allows us to provide to the marketplace the most extensive selection of designs and materials for small cell sites.

Any new structure has the potential to become a small cell site. Valmont provides small cell solutions for outdoor coverage using the same materials and design criteria found in our lighting structures. With our vast catalog of Valmont light poles, we are best positioned to match and convert your needs into new small cell sites.

When beginning a custom project, our technical team will carefully consider all project specifications and the surrounding environment. Our recommendations are unique based on local permitting and zoning requirements, pole size and location.

Request information on Valmont small cell pole solutions. Visit us online at [valmont-towers.com](http://valmont-towers.com).

# WIRELESS CELL SITE COMPONENTS



**Valmont Site Pro 1® offers an extensive selection of high-grade wireless cell tower parts and wireless rooftop parts.**

Customers may choose from over 500 product categories and more than 1400 individual wireless cell tower parts including coax cable runway components, antenna mounting gear, cables, ladders, ice bridge kits, entry panels, coax accessories, grounding solutions, weather proofing gear and much more.

Valmont Site Pro 1 offers same day shipping from any one of five fully stocked US distribution centers.

For more information on the Valmont Site Pro 1 product offering, and to request a components catalog, call 888-438-7761 or visit [www.sitepro1.com](http://www.sitepro1.com).



A **valmont** COMPANY

# IN-HOUSE ENGINEERING AND DESIGN



**Leveraging a solid foundation of in-house, engineering excellence, Valmont can design and produce structures which address tough technical challenges in most any environment.**

Engineering and design expertise truly sets Valmont apart from the competition. With decades of experience, our engineers design towers with guaranteed structural integrity. With teams in Plymouth, IN and Salem, OR, Valmont engineers provide designs and sealed prints (P.E. / S.E.) for all 50 states, and as part of an international network for manufacturing facilities, we offer local technical expertise backed by global design, engineering and production resources.

In addition to tower and pole engineering prints, Valmont engineers also provide site-specific foundation designs to accompany the tower design. A soil investigation by a geotechnical engineering firm is recommended for each tower site to determine its unique soil and physical characteristics. To ensure that the report furnishes useful information to the foundation designer, the guidelines listed below should be followed.

# TOWER ANALYSIS & INSPECTION SERVICES



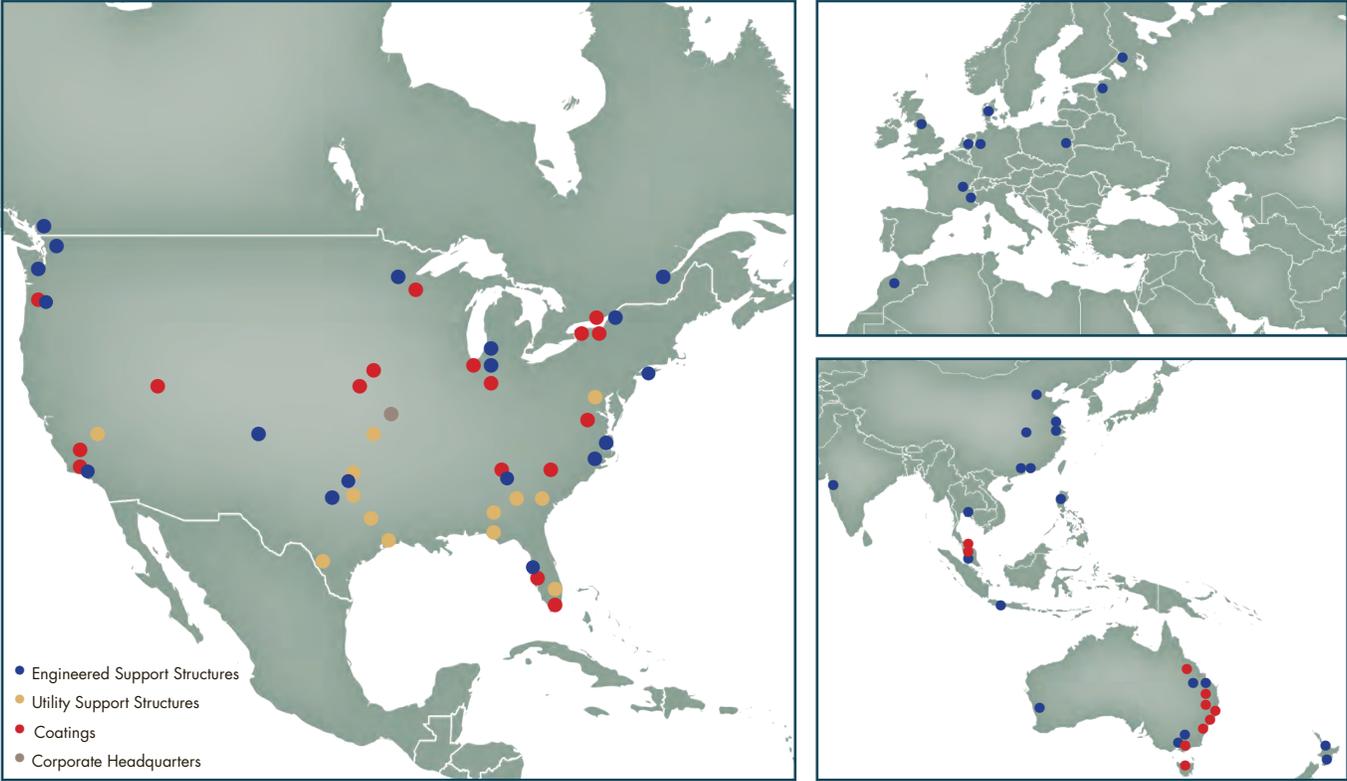
**Smart wireless tower owners seeking to expand the capabilities of their existing infrastructure can harness the industry intelligence of Valmont's in-house engineering expertise.**

Valmont's professionals perform analysis services on existing Microflect, PiRod and Valmont towers and monopoles to help owners determine load capabilities for communications equipment expansion, retrofits and upgrades. In addition, on-site mapping services are available upon request, providing tower owners with clear reporting of the various existing components installed on a wireless tower. Towers are analyzed per current TIA/EIA standards and any known applicable codes.

MATCO Services, a Valmont Company, can also provide more routine tower safety inspections to ensure the structural integrity of aging infrastructure. With expert inspections and analysis from trained professionals who possess in-depth knowledge of poles, towers, and non-destructive testing (NDT) techniques, the current-state condition of the structures on your property or in your care can be determined. This report may help you pinpoint potential problems and will provide clear recommendations for repairs, reinforcements or replacement of at-risk structures.



# VALMONT'S GLOBAL PRESENCE



**Our multi-site resources beyond North America provide internationally-inspired designs and increased access to materials for truly custom structures.**

Valmont is also trusted throughout the world for the routine inspection, maintenance, and repair of existing infrastructure. Regardless of the project specifications, we provide dependability through our engineering expertise and customer support, longevity with superior materials and finishes, and efficiency using our vast network of in-house capabilities.

Take advantage of our commitment to service, value, and integrity, and see why Valmont continues to rise above.





# local expertise with a global reach

Valmont provides comprehensive services that set us apart from the rest

---

### MICROFLECT TOWERS

3575 25th Street, SE  
Salem, OR 97302-1123 USA  
Phone: 503.363.9267  
800.547.2151  
Fax: 503.315.4549  
Email: towers@valmont.com

### PIROD TOWERS

1545 Pidco Drive  
Plymouth, IN 46563-1354 USA  
Phone: 574.936.4221  
877.467.4763  
Fax: 574.936.6796  
Email: towers@valmont.com

---

---

### DIVISION HEADQUARTERS

28800 Ida Street  
P.O. Box 358  
Valley, Nebraska 68064-0358 USA  
Phone: 402.359.2201  
800.825.6668  
Fax: 402.359.4025  
Email: towers@valmont.com

[VALMONT-TOWERS.COM](http://VALMONT-TOWERS.COM)



BRD1045 05/17