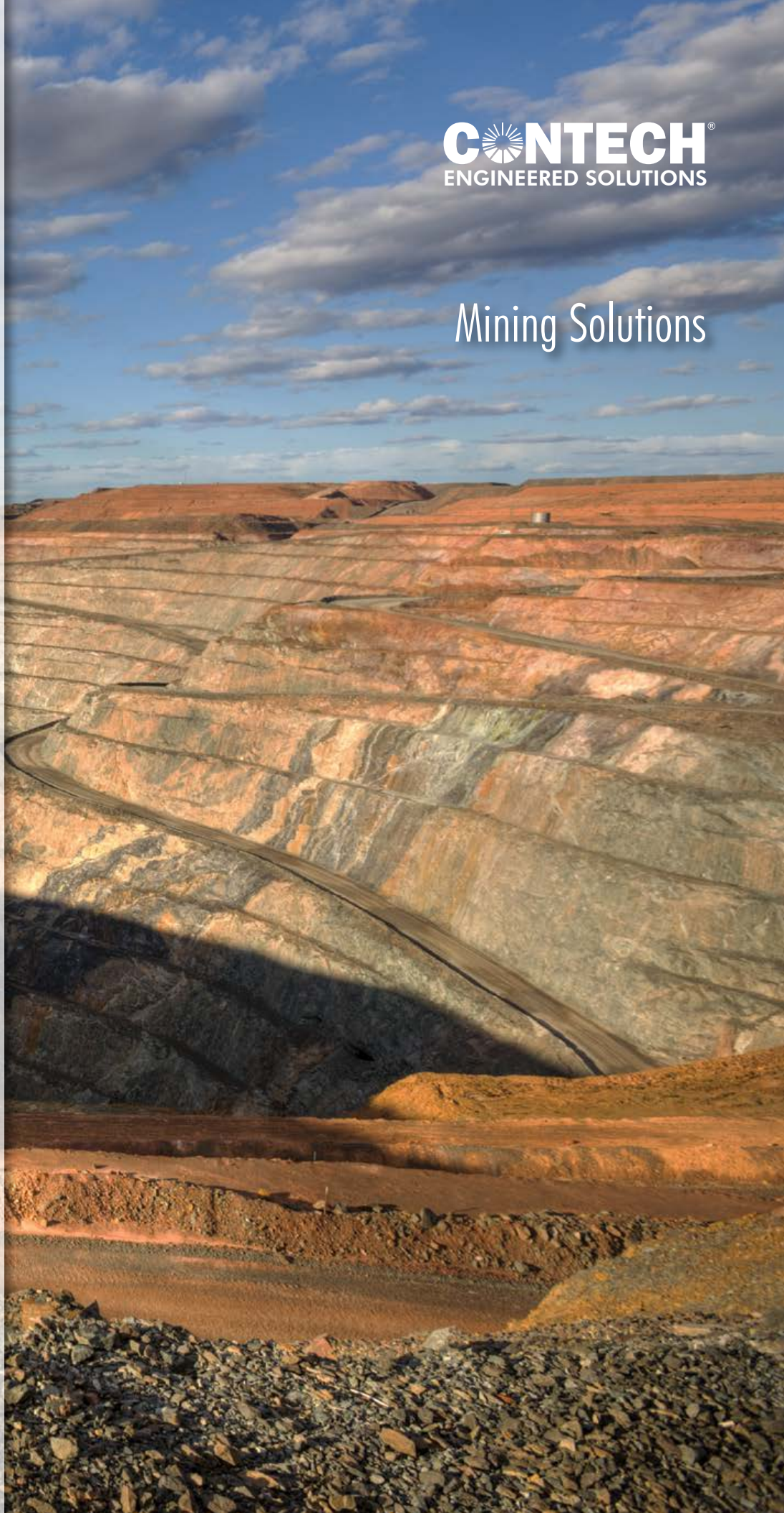


# Mining Solutions



## Contech Engineered Solutions

Balancing innovation and tradition since 1904, Contech has been the site solutions leader for over 100 years for good reasons. We know what it takes to be successful in mining – safe, economical, efficient, time-saving solutions. Whether your needs are domestic or abroad, our solutions are easy to transport and labor-efficient to tackle even the most remote mine site. Contech can facilitate in the design, development and construction of various civil applications.

### Precast

These structures can be adapted for use in tunnel applications, improving mine entrances, stream crossings, portal protection and grade separations.

**CON/SPAN® Bridge Systems** – fully engineered and precast modular component systems. The precast arch system, complete with headwalls and wingwalls, delivers fast installation and is accompanied by extensive technical support.

**BEBO® Arch System** – largest precast concrete arch spans in the world. The BEBO system is a combination of precast concrete arch elements, headwalls and wingwalls.

Features include:

- Complete precast system
- Outstanding span to rise ratio for wide, low crossings
- Four distinct shapes for your site specific needs
- Effective in extreme loading applications
- Spans from 12 feet to 102 feet

Applications for precast include the following:

- Haul roads and tank trails
- Mining entrances and rail tunnels
- Grade separations and stream crossings



*CON/SPAN precast arches can be utilized as portal protection.*



*Combination of precast concrete arch elements, headwalls and wingwalls.*

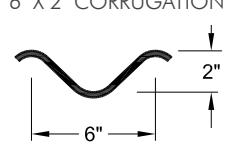

## Structural Plate

Contech's steel and aluminum structural plate offerings have a long history of strength, durability and economy. These structures meet a wide range of site specific challenges with a variety of sizes and shapes available.


**BridgeCor®** structures have a 15" x 5.5" advanced profile, reducing installation and maintenance costs while providing a durable and corrosion resistant structure that clears spans up to 65'.

**MULTI-PLATE®** structures consist of field-bolted, galvanized steel plates. **Aluminum Structural Plate** structures are similar to MULTI-PLATE, but with basic plate material consisting of aluminum instead of steel.

**SUPER-SPAN™** – Corrugated Steel structures utilize the same plates as MULTI-PLATE structures, but have special features that allow for larger spans and a different family of shapes.

Steel	6" X 2" CORRUGATION			15" X 5 1/2" CORRUGATION						
										
Gage	12	10	8	7	5	3	1	5/16	3/8	
Thickness	.111	.140	.170	.188	.218	.249	.280	.318	.380	

Aluminum	9" X 2 1/2" CORRUGATION					
						
Thickness	.125	.150	.175	.200	.225	.250

Applications for plate include the following:

- High combined live and dead loads
- Deep cover applications
- Material handling tunnels
- Wetland crossings
- Vehicular tunnels
- Grade separations
- Spans to 65 feet
- River and stream haul road crossings



Contech's Structural Plate is ideal for grade separation and tunnels.



The strength-to-weight ratio of BridgeCor® makes it a cost-effective and structurally efficient solution for limited access roads.



Structural Plate installed along curved alignment.

The inherent strength, durability, cost-savings and rapid installation of Contech plate and precast bridges, have made them premier bridge technologies.

## Truss & Rolled Girder Bridges

Contech is recognized by owners, engineers, and contractors as the industry leader with unmatched technical support and the most complete portfolio of vehicular, pedestrian, and utility structures. From short to long and/or basic to unique, Contech has the experience you want and need for your project.

**Steadfast® Vehicular Truss Structures** — fully engineered, project-based vehicular bridges designed for AASHTO and permit load conditions.

- Proven: Over 65 years of vehicular truss experience globally
- Efficient: AASHTO designs that optimize steel strength to weight ratios for clear-span solutions
- Versatile: Site specific configurations up to 200' in length, with or without skewed alignments.
- Support: Qualified technician during structure erection



### Continental® Prefabricated Truss

**Bridges** – site-specific engineered, prefabricated structures ranging from basic to custom.

- Functional: Footbridges, conveyor support systems, mezzanine walkways, and pipe support structures
- Adaptable: Custom designed and fabricated to the inch for site specific requirements
- Service: Project managers stay close to every project to ensure the industry's best customer experience

**Big R Bridge® Rolled Girder** – a prefabricated modular steel bridge designed to expedite the installation process.

- Designed in accordance with AASHTO LRFD specifications
- Stamped drawings provided in one (1) week after receipt of order

The speed, quality and value of Big R modular bridges will ensure that you receive the industry's best customer experience and an expedited construction schedule.



*Weathering steel Steadfast vehicular truss supports heavy construction equipment in West Virginia.*



*180' x 9', 190' x 9' and 208' x 9' galvanized Continental bridge manufactured for Stora Enso North American Corp.*



*Big R Bridge® Rolled Girders offers an expedited and cost-effective vehicular bridge solution.*

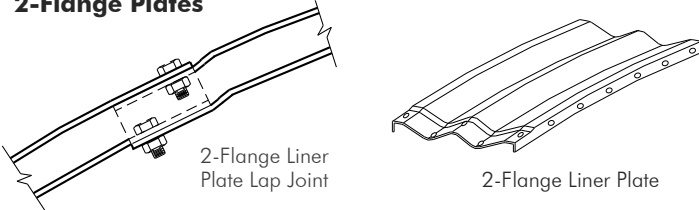
## Shaft Liners

The Contech Liner Plate offers the mining industry versatile designs that can address the structural needs. Contech 2-Flange Liner Plate offers the highest continuous ring stiffness and high compression joint strength.

### 2-Flange Liner Plate vs. 4-Flange

- Full corrugation and overlapping longitudinal seams of 2-Flange results in a much stronger and more efficient structure
- Seam strength of 2-Flange is 30% greater than 4-Flange
- No “hinging effect” at seams
- Ring beams may be eliminated depending on design parameters
- Ideal product for shaft collars and freeze cellars

#### 2-Flange Plates



## Mechanically Stabilized Earth (MSE)

**Vist-A-Wall® Wire Walls** - are an ideal MSE structural wall system for fast and economical installation in permanent or temporary applications. Wire Walls use cost-saving wire components and native backfill materials wherever possible.

Features include:

- Easily assembled even in remote site access locations
- Significant cost-savings compared to other solutions
- Accommodate curves, angles or steps
- Available in both temporary and permanent solutions

## Bin-Wall

Contech's Bin-Wall is easy to install in difficult or restrictive conditions and, when backfilled, transforms the soil mass into an economical gravity-type retaining wall.

Features include:

- Cost-effective
- Quick and easy to install in restrictive conditions
- Strength with flexibility - allowing for shifting with unforeseen ground movements that might damage or destroy rigid-type walls
- No heavy equipment necessary to assemble
- Can be designed up to 36' tall



*2-Flange Liner Plate offers superior plate stiffness and seam strength and the ability to construct from inside the structure.*



*Vist-A-Wall® Wire Walls provide an economical wire mesh retaining wall system using heavy-duty galvanized steel components.*



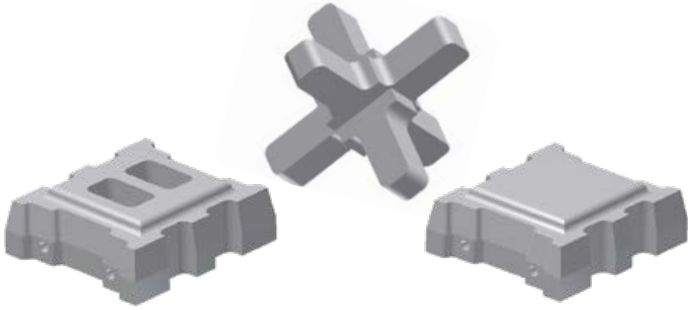
*Bin-Wall provides an economical, gravity-type retaining wall solution.*

## Spillways and Diversion Channels

### Hard Armor Solutions

**ArmorFlex®** is an engineering alternative to traditional channel revetment, such as riprap, gabions or cast-in-place concrete. It is a flexible, interlocking matrix of dry-cast concrete blocks of uniform size, shape and weight. The matrix is constructed by lacing a series of cables through the individual units, allowing for efficient mass placement of the system. Manufactured and hydraulically tested per ASTM International standards, ArmorFlex systems combine robust water conveyance with porosity, flexibility, vegetation encouragement and habitat enhancement.

**A-Jacks®** are high stability concrete armor units designed to interlock into a flexible, highly permeable matrix. Hydraulically tested to determine roughness and capacity, the A-Jacks system can be installed either randomly or in a uniform pattern allowing for exceptional contractor versatility. This extremely stable system is applied for energy dissipation in outfall structures, drop structures and downchutes.



*ArmorFlex is easy to install and has a low life-cycle cost when compared to other hard armor solutions.*



*Combination solutions including metric sheeting and A-Jacks or ArmorFlex create efficient grade change structures for water conveyance.*

Offering performance-tested hard armor products that provide an ideal solution for spillways with a low life-cycle cost compared to other permanent options.



*A-Jacks rapidly dissipate energy before flow transitions to natural environments.*

## Drainage/Irrigation/Conveyance

**CMP** - Contech provides a full range of Corrugated Metal Pipe products for culverts, storm sewers, stormwater detention systems and conduits to withstand severe environmental conditions and high cover. Contech manufactures HEL-COR® and ULTRA-FLO® pipe — which has a 0.012 Manning's "n" — in galvanized, Aluminized Steel Type 2, polymer coated and aluminum to repeatable and exacting standards.

Features include:

- Lightweight, easy handling
- Fast, economical installation
- Superior strength to weight ratio
- Diameters to 192"
- Pipe or pipe arch shapes
- Lengths to 48' and more
- Offered in a variety of coatings and gages

**MOBILE PIPE®** - The Contech MOBILE PIPE modular mill provides fast and cost-effective, on-site steel pipe manufacturing. The MOBILE PIPE can produce corrugated metal pipe in a variety of sizes. Diameters from 3'-16' and lengths up to 35' can be accommodated.

Applications for MOBILE PIPE include the following:

- Remote jobs
- Project requiring large, continuous pipe production (windmill foundation forms, vertical shafts, caissons)
- Support for immediate deployment and rebuilding
- Sites with limited storage space or restricted traffic patterns

### DuroMaxx® Steel Reinforced Polyethylene (SRPE)

offers the strength of steel reinforcing ribs and the durability of pressure rated polyethylene resin. With a smooth inner wall for outstanding hydraulics, DuroMaxx provides long term service and performance in the most demanding environments.

Features include:

- Superior durability
- High strength steel reinforcement
- Lightweight, fast installations
- Smooth interior wall: Manning's "n" value = 0.012
- Diameters to 120"
- 10.8 psi high performance (HP) pipe
- Welded coupler (WC) joints available (tested to 30 psi ASTM D3212)



*Polymer coated HEL-COR® is used to withstand corrosive soil conditions.*



*Contech's MOBILE PIPE® makes it easy to manufacture in remote site locations.*



*DuroMaxx SRPE pipe can also be manufactured in remote locations for quick installation and extreme cost-savings.*

# Project Partner. Contech.

Providing options and  
support specific to  
your project needs.



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Enter information and specs to receive a schematic of your bridge.

**DYODS<sup>®</sup> – Design Your Own Detention System**

Compare and size your concrete, metal and plastic detention system solutions.

*Contech Engineered Solutions provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, erosion control, retaining wall, sanitary sewer, and stormwater management products.*

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