

Specialty Products



Contech Metric Sheeting

Contech Metric Sheeting uses a unique profile that gives it a higher degree of stiffness and results in the best strength-to-weight ratio in the industry.

- **Greater laying width**— $21\frac{5}{8}$ " net laying width means more coverage per section driven.
- **Higher stiffness**—translates into less driving effort.
- **ALUMINIZED STEEL™** Type 2 coating—provides improved durability versus galvanizing for applications requiring longer life or when aesthetics are a concern.

Wide range of applications

Contech Metric Sheeting speeds work, enables safer working conditions, reduces cost and provides many types of temporary and permanent structures. As a medium-weight sheeting, Contech Metric Sheeting serves where heavy hot-rolled sheeting is impractical, and where wooden sheeting is expensive, cumbersome or structurally inadequate. Applications include checkdams, cut-off walls, core walls, wingwalls, shore protection, trench protection, low retaining walls, ditch checks, jetties, and lagoon baffles.

Availability

Contech Metric Sheeting is available in 5-, 7-, 8-, 10- or 12-gage steel. Lengths vary from 4 to 40 feet. Net laying width is 550mm ($21\frac{5}{8}$ inches), and depth is 83mm ($3\frac{1}{4}$ inches). Sheeting is normally fabricated from black steel. For additional corrosion protection, galvanized coatings are available. 10- and 12-gage sheeting is available in ALUMINIZED STEEL Type 2 for improved durability.

Strict quality control

Contech Metric Sheeting is cold-rolled on a continuous forming line for maximum economy. Contech follows strict quality control standards throughout fabrication.

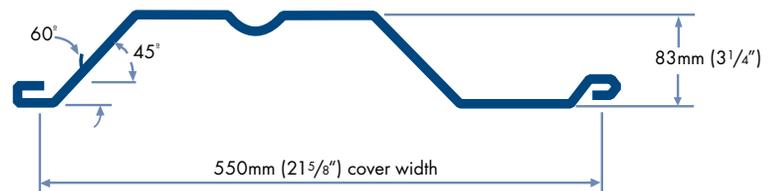
Fast, economical driving

Contech Metric Sheeting often can be handled by only two laborers and pushed into the ground with a backhoe. In more difficult driving conditions, it can be driven with conventional drop hammers, vibratory drivers, and diesel hammers. A light duty driving head is available from Contech. Installations across the

United States have proven that Contech Metric Sheeting can withstand many varied driving conditions. Lengths of sheeting have a tight, metal-to-metal interlock that keeps the soil behind the sheeting wall. The unique design resists pull-apart, yet the available pulling holes allow easy extraction in soft soils for salvaging.

Easy handling and storage

Medium-weight Contech Metric Sheeting simplifies transportation and handling and speeds installation. The sheeting is nestable, so large quantities can be stored at the job site or in a contractor's yard.



A unique steel sheeting with the industry's best strength-to-weight ratio



Contech ANCHOR WALL

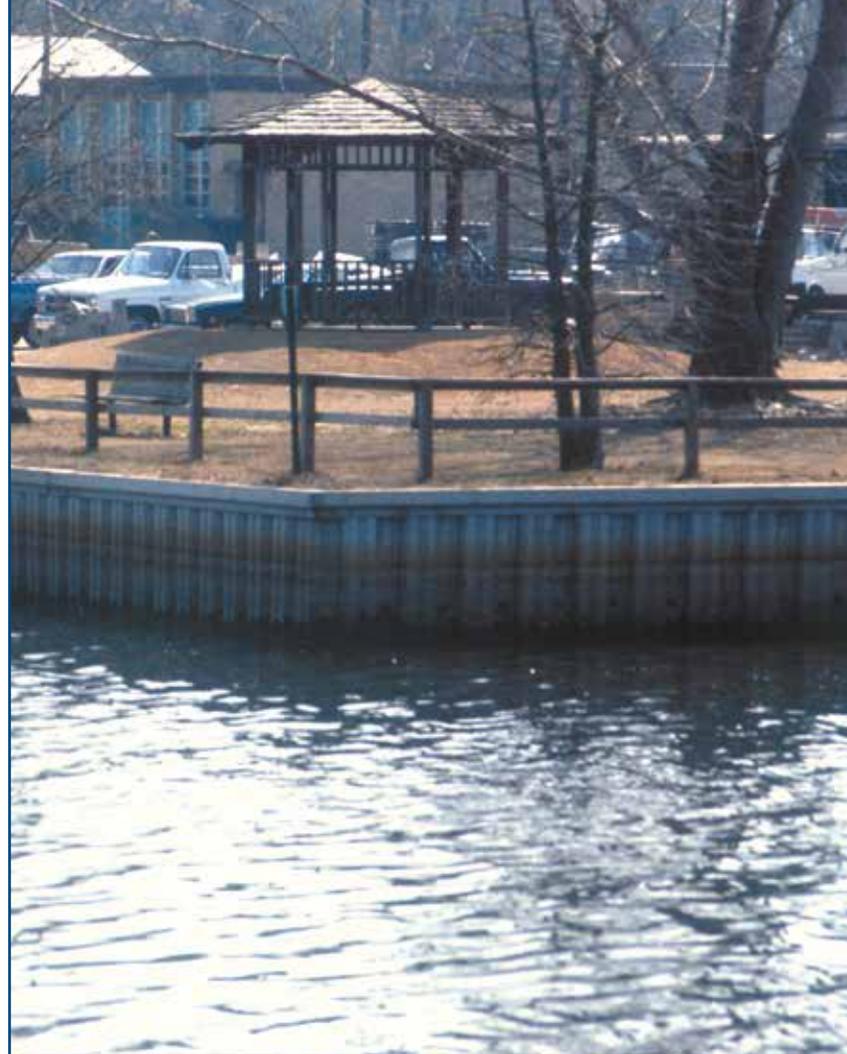
The Only Complete Steel System Available

The Contech ANCHOR WALL™ system is the first all-steel approach to construction of shoreline walls. It gives you all the components needed to design for structural adequacy and efficiency.

Compared to conventional bulkheads, ANCHOR WALL offers unique economies and aesthetics—maximum strength-to-weight ratio, design flexibility, best corrosion protection for freshwater applications, specially designed trim and stiffening members for concealing fasteners and more.

The System

- **Contech Metric Sheeting** forms the face and is the barrier between the water and soil. Long-term durability and corrosion resistance is assured by using zinc-coated steel or ALUMINIZED STEEL Type 2.
- **Deadman Anchors**, sized and located according to the designer's recommendations, are all-steel 6" x 2" box corrugated units braced for maximum stiffness and resistance to movement.
- **Tie Rods** are hot-dip galvanized steel. Sized by the designer for the applied tensile load, they connect the deadmen and metric sheeting wall.
- **Wale Cap** acts as a top stiffener and molding piece. This stiff 10-gage unit is made from either zinc-coated or ALUMINIZED STEEL Type 2.
- **Face Wales**, in 5-gauge hot-dip galvanized steel, prevent wall bulging. Use on walls needing extra stiffness and/or require deadmen at different soil levels.
- **Fasteners** are hot-dip galvanized steel to resist corrosion.



Contech Bin-Wall

Gravity-Type Retaining Walls

Contech Bin-Wall™ is a system of adjoining closed-faced bins that are each 10-feet wide. They are composed of sturdy, lightweight steel members that are easily bolted together at the job site. Backfilled with reasonable care, they transform the soil mass into an economical gravity-type retaining wall. Because this unique design allows the Bin-Wall to flex against minor, unforeseen ground movements that might damage or destroy rigid-type walls, they have been recognized worldwide for over 60 years as economical and effective retaining walls.

Bin-Wall are used to ...

- Gain right-of-way on highway and railroad projects by either supporting part of the road or holding back an encroaching slope.
- Create usable flat areas on municipal, industrial and commercial sites that otherwise would be wasted slopes.
- Protect against shore or bank erosion.
- Build breakwaters to protect dock areas against wave action.
- Enlarge grade-separated highway or railway rights-of-way.
- Prevent erosion under bridge abutments.
- Provide wingwalls on bridge abutments.
- Create blast walls for protection at military and industrial sites.

The benefits of Contech Bin-Wall

Bin-Wall are easy to install in difficult or restrictive conditions, have a lower initial cost and reduce maintenance expenses. They also have greater strength and stability, are installed without expensive equipment and can be rapidly assembled with unskilled crews.

Superior Contech Bin-Wall

Strength with flexibility

Contech Bin-Wall gain stability from the weight of the fill material plus the weight of the steel structure itself. But unlike most other types of walls, they are flexible and adjust themselves to minor ground movement without cracking.

Closed construction

All four sides of each Contech Bin-Wall cell are composed of overlapping steel members. Bolted together, they form an integral structure. Because the face of a Contech Bin-Wall is fully enclosed, you are protected against loss of fill material. This contrasts with crib-type retaining wall construction through which fill material can escape, weakening the structure.

Versatility

Contech Bin-Wall can be readily adapted for installation on curves by shortening the horizontal stringers as needed to shorten either the front or rear wall face.

Appearance options

The rugged modular look and strong horizontal lines of Contech Bin-Wall blend well with most environments. The standard galvanized surface weathers gradually to a softer gray.

For harsh environments, ALUMINIZED STEEL Type 2 horizontal face sections (stringers) and transverse sections (spacers) are available depending on the required gage. Reinforced concrete face panels can usually be produced locally with various finishes. Your Contech Sales Engineer can provide you with more information.



Contech Bin-Wall is quick and easy to install. It can be bolted together at the job site or preassembled and moved to the site.

Long service

Contech Bin-Wall can withstand temperature variations and effects of ice and snow. Expansion and contraction caused by temperature changes are safely absorbed by the all-steel construction. There is no danger of cracking.

Both the galvanized steel and ALUMIZIED STEEL Type 2 can be sprayed with field-applied coatings after erection and before backfilling.

No obsolescence

Even after years of use at one location, Contech Bin-Wall can be removed for use elsewhere—or they can be easily extended in length to meet changing conditions at the same site.

Applications for Contech Bin-Wall Type 1 and Type 2

For retaining walls up to 28 feet, use Contech Bin-Wall Type 2. For walls of greater height or walls requiring increased burst strength, Bin-Wall Type 1 is required. Bin-Wall Type 1 has heavy-duty vertical connectors, which results in an overall stronger structure.





Marine Bin-Wall

Breakwaters, Shore Protection, Marina Docks

Contech Marine Bin-Wall provide economical and effective solutions for many varied marine applications, including shore protection, primary and secondary breakwaters, jetties and marina docks.

The steel-soil design concept provides a unique marine structure with the structural strength and flexibility to withstand freeze and thaw conditions and the effects of ice. For normal freshwater applications, components are supplied as galvanized steel or ALUMINIZED STEEL Type 2 stringers and spacers as specified.

Erection of the relatively lightweight steel bins can be completed off site and then lifted into place. Or, assembly can be performed on site, without requiring heavy equipment. Installation methods are many and varied and are open to the contractor's skill and imagination where difficult or restrictive installation conditions need to be overcome.

Contech Marine Bin-Wall consist of pre-engineered steel members, bolted together to form a closed-face bin. These bins are filled with granular material (1/4" to 6") to provide a durable and sturdy structure.

Design

A critical factor in bin design is the adequacy of the foundation. The resistance of the foundation to the settling, overturning and sliding forces acting on the bin is a sophisticated engineering evaluation. THEREFORE, SITE INVESTIGATIONS AND ANALYSES SHOULD BE COMPLETED BY A PROFESSIONAL ENGINEER.



Boat Docks and Marinas

Contech Marine Bin-Wall are well suited to freshwater marina construction. Placing the steel bins into the water and then filling with granular material (1/4" to 6") provides a structure with a heavy mass to resist overturning, sliding or ice uplift. With fill material smaller than 1/4", a geotextile must be used to prevent loss of fill.

The observed reaction of ice against a Contech Marine Bin-Wall indicates that the mass of the structure is able to resist resultant forces.



Concrete-Faced Bin-Wall

Aesthetically Pleasing

Contech Bin-Wall Type 2 with reinforced concrete-faced panels provides an attractive appearance along with strength, flexibility and durability. It also has lower construction costs than heavy, reinforced concrete retaining walls.

Even though the concrete panels cost slightly more than steel stringers used in standard Bin-Wall, installation savings are possible. A standard concrete panel is the equivalent size to two stringers and simply slides into place.



Concrete panels easily slide into place.



Bin-Wall system allows angle changes.



Contech Bridge Plank

Every state is faced with the problem of replacing old bridges. In most cases, the local jurisdictions—counties, townships, municipalities—have the bulk of the nation's bridge problems. Many of these bridges were erected before the turn of the century and most were built before 1935.

A large number of these bridges urgently need major repairs. A common problem is replacing noisy, worn-out wood floors or broken concrete decks on the otherwise structurally adequate bridges. The easy and economical solution is to replace the deck with Contech Bridge Plank.

Corrugated steel Contech Bridge Plank has been proven in service from coast to coast on bridges of many types, including skewed structures.

Three standard sizes

Contech Bridge Plank is available in either 6" x 2", 9" x 3", or 12" x 4-1/4" corrugations.

Contech Bridge Plank with 6" x 2" trapezoidal corrugations comes in lengths up to 40 feet. Covering widths for the planks may be either 18 or 24 inches. Steel thickness may be either 0.105, 0.135, or 0.179 inch.

Trapezoidal corrugation 9" x 3" plank can be installed the full width of the bridge being re-decked. It has a nominal covering width of nine inches with a height of three inches. It is supplied in a choice of 0.164, 0.179, 0.209, 0.239, 0.313, and 0.375 inch thicknesses.

The 9" x 3" corrugation allows design flexibility because the larger corrugation provides greater strength. It provides more than twice the unsupported span between stringers of the heaviest 6" x 2" design. Contech also has 12" x 4-1/4" bridge plank in 0.149, 0.164, and 0.179 inch thickness.

Restores strength to old structures

Reduced load limits caused by inadequate decking are quickly eliminated with Contech Bridge Plank. Simply specify the gage and corrugation to meet your stringer spacing and load requirements. The corrugated design plus the correct grade of steel ensures ample strength.

Planks may be furnished in galvanized steel to provide many extra years of minimum maintenance service.



Stiffens bridge laterally and eliminates rattles

Positive welded connections provide a rigid panel construction that helps stiffen the entire structure. The deck becomes an integral part of the bridge. Rattling of loose members under traffic is eliminated.

Adds little or no dead weight

Contech Bridge Plank has the high strength-to-weight ratio of corrugated steel design. Total weight is only slightly higher than most timber floors and in some cases (especially replacement of reinforced concrete decks) the load is actually reduced.

Fast, low-cost installation

You can have Contech Bridge Plank delivered in convenient lengths to fit your bridge width.

Simply order the number of planks required to cover the deck. Weld holes may be factory-punched to fit the stringer spacing of the bridge. All welding is done from the top of the planks—an important safety factor on any bridge.

With wood stringers, lag screws and similar fasteners have been successfully used.

No special equipment or training is necessary to ensure a fast, efficient job. Individual sections of Contech Bridge Plank are light enough for easy handling by small crews. The corrugated design makes it easy to stack the sections for convenient hauling and storing.

Durable galvanized planks require no special maintenance

With Contech Bridge Plank there is nothing to crack, warp or rot. Repeated, expensive repair work on the bridge deck is stopped. The danger of fire is minimized.

The completed deck can be maintained as part of regular road and bridge programs. The asphalt traffic surface is the same as used on many roads. Painting is not needed on the underside of the deck because of the protection given it by galvanizing.

Contech Collector Pans

For Economical Containment of Liquid Pollutants

Effective pollution control

Contech Collector Pans™ are a modular system of steel pans and drains easily installed on existing or new tracks to catch spilled or leaking fuel, oils, greases and other pollutants.

At hundreds of installations within the railroad and manufacturing industries, they are preventing liquid pollution at fueling stations, ready tracks, tank car loading and unloading areas, washing facilities—anywhere oils, chemicals and other pollutants can drip from standing cars and find their way into sewers and streams.

Long Service Life

Contech's galvanized or stainless steel Collector Pans are completely reusable when yard layouts, fueling facilities or ready tracks change. If an accident damages one, its modular construction means that only the damaged section needs to be replaced.

Easy field installation with minimal downtime

No special installation skills are needed. A competent foreman, welder and four or five unskilled laborers can easily install a system. It involves only a minimal amount of track downtime contrasted with the installation of concrete aprons—which requires weeks of expensive, wasted time.



Tunnel Design

General design factors

Tunnel loads vary widely in magnitude and classification, depending on the soils encountered and construction practices. Loads encountered during the tunneling operation are entirely different from those on the finished and grouted tunnel.

Once construction is finished and the tunnel has been grouted, a relatively uniform load distribution develops around the structure. These final loads consist of dead and live loads.

Since loads that develop during construction depend on the tunneling procedure and soil conditions, they are difficult to predict. The installing contractor often encounters slough-ins, water-bearing soil pressures and other forms of point loading. Handling these temporary overloads requires proper equipment and good techniques to maintain the correct shape of the lining.

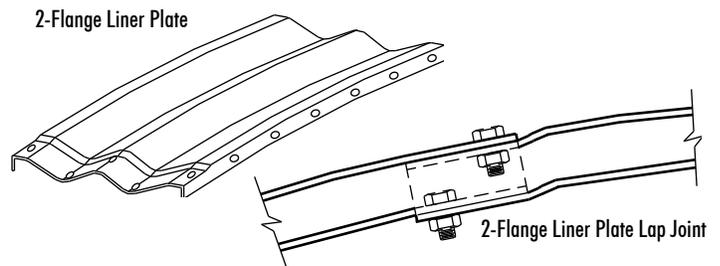
Contractors also rely on suitably engineered liner structures with high bending resistance (stiffness) to resist concentrated loads that are common during construction.

The designer should anticipate these construction loads, even though most attention is logically directed toward calculating final loads and then designing around them.

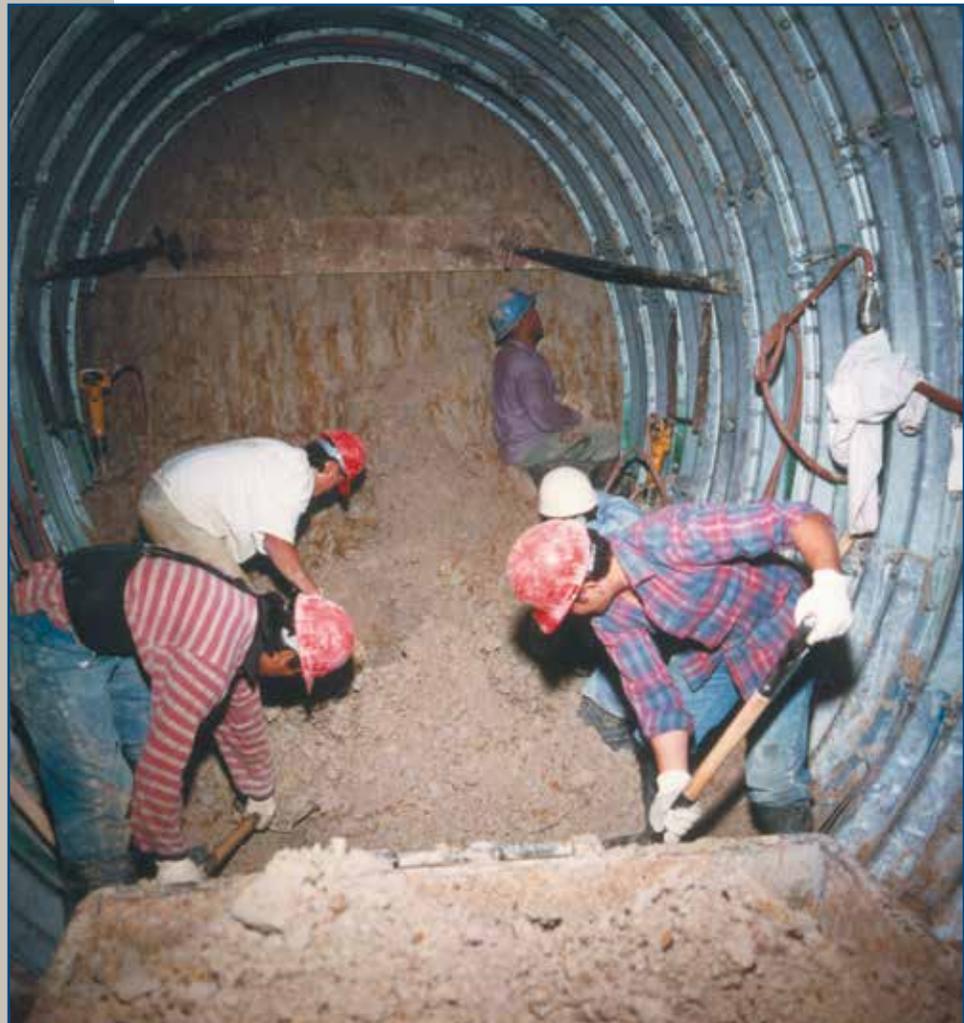
The designer should be aware that construction loads—not final loads—generally control the design, especially in soft ground or hand-mined tunnels.

2-Flange Tunnel Liner Plate

2-Flange liner plate from Contech provides corrugations extending through the lapped longitudinal joint. When assembled, this liner functions as a corrugated pipe with continuous circumferential corrugations. The result is more effective corrugation performance for the highest stiffness and strength in the industry! Strength to handle the inconsistencies encountered on a regular basis. Extra safety factor when you need it most!



Deep, full length corrugations and lapped joints for more effective stiffness and ring compression.



Vertical Shafts

Vertical shafts are required for many microtunneling, slip-lining, and tunnel installations. These shafts vary in diameter from a few feet to over fifty feet and frequently have depths exceeding sixty feet.

Optimizing Shaft Integrity

In each case, maintaining shaft integrity requires a dependable support system. Various methods have been used as vertical shaft lining; sheet piling, unbraced timber, ring beams and timber lagging, concrete and stacked trench boxes. But whatever the method, worker safety and economics must be optimized.

Contech's 2-Flange LINER PLATE, MULTI-PLATE®, and HEL-COR® pipe can all be used as cost-efficient shaft liner systems that minimize installation expense and, most importantly, create a safe working environment when properly designed and installed.

Liner Plate Liner Systems

Contech 2-Flange LINER PLATE is used in vertical shafts when the shaft liner is to be installed at the advancing shaft face. A net laying width of 18" permits advancing shaft in 18" and 36" increments. Bolts and nuts for 2-Flange LINER PLATE are easily installed from within the structure, and rings of LINER PLATE can be quickly installed and backgrouted.

Contech 2-Flange LINER PLATE is the stiffest plate available and, unlike other shaft liner systems, usually does not require ring-beam stiffeners.

The Contech LINER PLATE system, available in black (uncoated) or galvanized steel, is unsurpassed in strength and safety. Once tunneling is completed, the LINER PLATE is often dismantled and reused.

Contech 2-Flange LINER PLATE is also used to facilitate construction and installation of caissons in unstable soils, especially when conditions are compromised by high ground water elevations. The LINER PLATE protects the shaft until the permanent caisson can be installed.

If sensitive adjacent structures preclude pile driving, a starter shaft using 2-Flange LINER PLATE can be used. Once the shaft reaches sufficient depth, pile driving can be commenced and disturbance to nearby foundations, railroads or other structures is minimized or eliminated.



MULTI-PLATE Liner Systems

MULTI-PLATE® can be preassembled on the surface in large diameters and long lengths, then lowered into a pre-excavated or drilled shaft. Once installed, the void between the MULTI-PLATE liner and the excavated/drilled shaft is grouted. Soil conditions must allow the shaft walls to be left temporarily exposed until the liner is installed.

MULTI-PLATE shaft liners are also extremely stiff, creating a very safe shaft and, as with 2-Flange LINER PLATE, ring-beam stiffeners are often not required.

HEL-COR Lining Systems

HEL-COR® corrugated steel pipe, with or without ring beam stiffeners, can be supplied in diameters up to 120" (larger diameters are available at some locations). It is installed in the same manner as MULTI-PLATE structures, but precludes field assembly of plates. Ring beams, if needed, are installed by the contractor.

Site Development Solutions

Contech Engineered Solutions provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, retaining walls, sanitary sewer, stormwater, erosion control, soil stabilization and wastewater treatment products.

For more information, call one of Contech's Regional Offices located in the following cities:

Ohio (Corporate Office)	513-645-7000
California (Roseville)	800-548-4667
Colorado (Denver)	720-587-2700
Florida (Orlando)	321-348-3520
Maine (Scarborough)	207-885-9830
Maryland (Baltimore)	410-740-8490
Oregon (Portland)	503-258-3180
Texas (Dallas)	972-590-2000

Toll Free: 1-800-338-1122
Visit our web site: www.ContechES.com

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