

**VICTAULIC**

# **GALVANIZED PRODUCT LINE**

*The fastest, safest and easiest way to join  
corrosion resistant piping systems*



 **victaulic®**

# VICTAULIC GALVANIZED PRODUCT LINE

Many systems require corrosion protection which can be achieved using coatings, or a variety of materials and finishes such as stainless steel and galvanizing. Victaulic provides a full line of galvanized products that offer economical corrosion resistance for the following systems:



- Plant Air
- Drain Lines
- Fire Protection Systems
- Condenser Water
- Domestic Water
- Utility Water
- Waste Water

## PRODUCTS AVAILABLE WITH GALVANIZED COATING



### INSTALLATION-READY COUPLINGS

QuickVic® couplings are assembled onto pipe without disassembling the bolts, nuts and housings. This installation-ready, patented design reduces handling and speeds installation. Available in sizes from 2–8" /50–200mm



### FITTINGS

Fittings are supplied with grooved or shouldered ends to permit fast installation without field preparation.



### ADVANCED GROOVE SYSTEM (AGS)

A two-piece housing and a wedge-shaped groove delivers pressure ratings up to 350 psi/ 2400 kPa, depending on size and wall thickness, for sizes ranging from 14–60"/350–1525 mm

## Nothing competes with grooving galvanized pipe.

### WELDING GALVANIZED

Welding galvanized pipe can be as much as 10 times slower than installing grooved products, and requires a certified welder to perform the job. The process of welding, especially in the case of galvanized pipe, releases chemical agents in the form of hazardous fumes which can cause dangerous and long lasting effects to workers health. Health issues are also linked to the over-exposure to ultraviolet and infrared radiation, as well as intense visible light that is produced by the electric arc in the welding process.

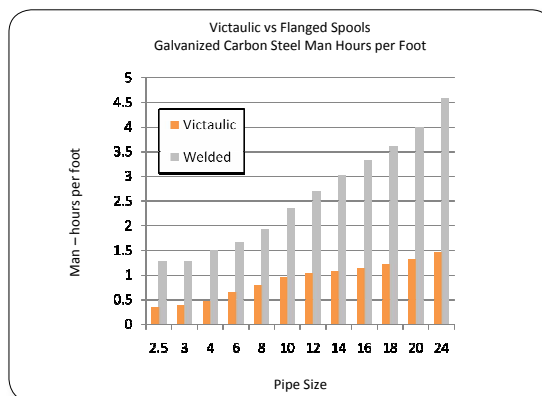
Welding requires extensive downtime when rework or access to the system is needed for maintenance. This downtime is extremely minimal when working with a grooved system.

### THREADED GALVANIZED.

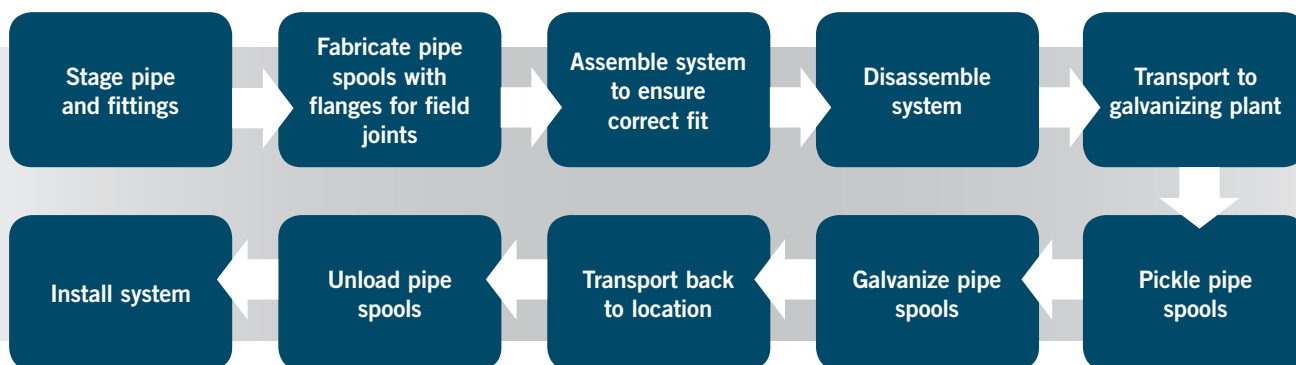
Threading pipe is not only time consuming, but has been known to leak. Maintenance on threaded systems is difficult and often requires complete replacement of the joint.

### FLANGED GALVANIZED.

Flanges must first be threaded or welded on to the pipe prior to being galvanized. The pickling process can become quite problematic and result in the distortion of the flanges. The zinc build up on the flange faces may also cause installation problems and leaks. Many times the flange face needs to be ground down to provide a proper sealing surface. Any rework in the system requires more than 2/3 the time needed when utilizing a grooved system.



## Alternative Methods



## Grooved Method



# VICTAULIC GALVANIZED PRODUCT LINE

## Grooved Technology & Galvanized Process.

Using grooved technology by Victaulic for a galvanized system creates multiple benefits:

- Union at every joint
- Time savings
- Ease of maintenance
- Cost Savings
- Meets the requirements of multiple approval agencies



## Safety at the Core.

By using Victaulic galvanized products to join your galvanized system you will maintain corrosion resistance, all the while upholding safety at the jobsite. Victaulic joining methods eliminate the toxic fumes and light exposure hazards that are exponentially increased when using other joining methods for galvanized pipe. Re-work is reduced and in many cases completely eliminated. When system expansions and maintenance are required, Victaulic helps to minimize both time and cost constraints.

# INDUSTRIAL PROJECT REFERENCES

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## OIL, GAS & CHEMICAL

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Pemex Marine Region Northeast – Ciudad del Carmen, Mexico

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Lyondell Chemical – LaPorte, Texas

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Bayer Chemical – Baytown, Texas

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DuPont – Laporte, Texas

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DuPont – Beaumont, Texas

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Dow (Roman Haas) – LaPorte, Texas

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Dow – Freeport, Texas

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Dow – Seadrift, Texas

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BP – Texas City, Texas

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Dow – Taft, Louisiana

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Monsanto – Luling, Louisiana

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BASF – Geismar, Louisiana

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Georgia Pacific – Port Hudson, Louisiana

---

Total – Bayport Texas

---

Tesoro – California

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Marathon Pump Alley Deluge – Detroit, Michigan

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Eastman Everlok – Kingsport, Tennessee

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IOCAL Naphtha – Haryana, India

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Caltex Crude Wharf Upgrade – Brisbane, Queensland, Australia

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GS Caltex Heavy Oil Upgrade No. 2 – Yeosu, Korea

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SAGGAS ( Sagunto Regasification Plant) – Sagunto, Spain

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## MINING

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Barrick Goldstrike Roaster – Carlin, Nevada

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Braunkohlebagger 260 – Garzweiler Grevenbroch, Germany

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92C Conveyor Upgrade – Tom Price, Western Australia

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Fortescue Metals Group Anderson Point Port Facility

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Herb Elliot Wharf – Port Hedland, Western Australia

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## GENERAL INDUSTRIAL

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Springfield Power Plant – Springfield, Illinois, United States

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Chrysler Kenosha Engine – Kenosha, Wisconsin

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Toyota Paint, Top Coat & Final Contract – Cambridge, Ontario, Canada

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Gumi, Philips/ LG LCD Plant – Daegu, South Korea

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Hyundai Motor Manufacturing – Montgomery, Alabama

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Amcor Stage 1 – South Australia, Australia

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Amcor Glass Bottling Plant – South Australia, Australia

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The Eaton Automotive Plant – Bielsko-Biala, Poland

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Dow Chemical – Red Deer, Alberta, Canada

---

Celltrion Biopharmaceutical Plant – Incheon, Korea

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Samsung SDI's 4th PDP Line – Yangsan City, Korea

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GS Caltex Heavy Oil Upgrade No.2 – Yeosu, Korea

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ST Microelectronics – Johor, Malaysia

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Colgate Palmolive Plant – Morristown, Tennessee

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GTAA cogeneration Plant – Mississauga, Ontario

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## MUNICIPAL

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George W. Kuhn Drain – Madison Heights, Michigan

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## SHIPBUILDING

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City Wismar & Cape Mollini – Warnemünde, Germany

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# COMMERCIAL PROJECT REFERENCES

## HVAC

Esplanade Theatre on the Bay – Singapore

Fu Hsing School Building – Taipei, Taiwan

Hsin Kong C1 Building – Taipei, Taiwan

Temerloh Hospital – Temerloh, Pahang, Malaysia

The Comtech – Singapore

Calpine 717 Texas – Houston, Texas

Superdome – New Orleans, Louisiana

Citizens Bank Park – Philadelphia, Pennsylvania

Wimbledon Center Court – London, United Kingdom

Siemens – Düsseldorf, Germany

One Hanson Place – Brooklyn, New York, United States

China Overseas Square – Beijing, China

Safeco Field, Mariners Stadium – Seattle, Washington

Jin Mao Tower – Shanghai, China

Burj Al-Arab & Jumirah Beach Hotel – United Arab Emirates

Petco Park, San Diego Padres Ball Park – San Diego, California

San Jose Joint Library – San Jose, California

Europa Center – Berlin, Germany

Grand Melia – Jakarta, Indonesia

Mid Valley Megamall – Kuala Lumpur, Malaysia

Pentagon – Washinton, DC, United States

Reliant Energy Plaza – Houston, Texas

San Li TV Building – Taipei, Taiwan

Menara Kuala Lumpur – Kuala Lumpur, Malaysia

Palmolive Building – Chicago, Illinois

Reliant Stadium – Houston, Texas

The Gateway – Singapore

Singapore Mass Rapid Transit – Singapore

Tuntex Kaohsiung – Kaohsiung, Taiwan

Metro Downtown Transit Center – Houston, Texas

Niagara Fallsview Casino Resort – Niagara Falls, Canada

Singapore Management University – Singapore

Centro Comercial Rivas – Madrid, Spain

Gainsborough Studios – London, United Kingdom

One Potomac Yard – Arlington, Virginia

Airbus Assembly Plant – Broughton, Wales

UBC Life Sciences Centre – Vancouver, British Columbia

Centro Commerciale – Novara, Italy

Millennium Tower – Wien, Austria

Europark – Salzburg, Austria

LG CNS IT Center – Seoul, Korea

Singtel Data Center – Singapore

Central Shopping Mall at Clarke Quay – Singapore

Panoramahaus Dornbirn – Dornbirn, Austria

55 Allen Plaza ( Ernst & Young) – Atlanta, Georgia

Hilton Hotel Southlake – Southlake Texas

Choongwae Dangjin Factory – Dangjin, Korea

President Hotel and Rapid Transit Station – Taipei, Taiwan

HQB Hackesches Quartier – Berlin, Germany

## FIRE PROTECTION

President International HQ Building – Taipei, Taiwan

Incheon International Airport – Incheon, Korea

Matrix Corporation – South Plainfield, New Jersey

Stationnement Place – Quebec City, Quebec, Canada

Metro Warszawskie – Warsaw, Poland

São Paulo Football Club Stadium – São Paulo, SP Brazil

Cafferata Fireworks – Nistelrode, The Netherlands

ProLogis Gdansk – Gdansk, Kokszyki, Poland

Johnson Controls – Siemianowice Slaskie, Poland

Suzhou Science and Culture Arts Center

Allegheny County Morgue – Pittsburgh, Pennsylvania

Sony Center – Berlin, Germany

Western Grocers – Calgary, Alberta

Pacific Financial Building – Taipei, Taiwan

Kanyon Levent – Istanbul, Turkey

Zlote Tarasy – Warszawa, Poland

DeMoulas Distribution Center  
– North Andover, Massachusetts

Carrefour – Rybnik, Poland

Jupiter Pitesti – Pitesti, Romania

## project brief

**TYPE OF FACILITY:**  
Plant



## GS Caltex Heavy Oil Upgrade No. 2

■ Yeosu, Korea

GS Caltex HOU No.2 project is constructing the second plant that converts heavy oil into cleaner-burning transportation fuels such as gasoline and diesel. The unit close to the refinery's plant in Yeosu, Korea completed in 2007 at a cost of \$1.6 billion. Also GS Caltex Corporation has a plan to build a third plant to process heavy oil into transportation fuels in near future.

Victaulic provides total solutions to its fire fighting, tank, water spray and straight piping lines around the tank. Welding galvanized pipe is extremely difficult and potentially dangerous as it generates noxious fumes. With the cold formed grooving process there are no hazardous flames or noxious fumes. Additionally anytime maintenance is required access to the system is as simple as removing two bolts and nuts from any coupling in the pipeline. Since each joint is a union you have multiple points of access for any system maintenance or expansion.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Water and Form	Galvanized Carbon Steel	Max. 10"

**MARKET:**  
Industrial

**VICTAULIC:**

- Speed of installation
- Ease of maintenance
- Simplicity and clean look of the Victaulic system

**OWNER:**  
GS Caltex

**CONTRACTOR:**  
GS Construction

**ENGINEER/CONSULTANT:**  
GS Construction

**COMPLETED DATE:**  
2007



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## project brief

**TYPE OF FACILITY:**  
Regasification Plant



## SAGGAS (Sagunto Regasification Plant)

■ Sagunto, Spain

Sagunto's Regasification Plant project has been ongoing since 2003, with multiple tanks being commissioned throughout the process. Welding is the most common pipe joining method on LNG projects. However, in 2010 the construction team on site, understanding the advantages of using Victaulic galvanized and stainless steel product line, decided to replace the pre-existing stainless steel pipe joined by welding with Victaulic's galvanized products. In addition Victaulic was used on the tank's fire protection system.

Victaulic solutions provided many benefits on this project. Most crucial to the contractor was that installation of the plant water line could be done while the plant was in full operation. By using Victaulic's grooved system this task was completed both safely and in a timely manner. This also allowed for cost savings on the overall project.

### MARKET:

Oil & gas

### VICTAULIC SOLUTIONS:

Ease & Speed of installation

### OWNER:

Union Fenosa Gas  
RREEF Alternative Investments  
Osaka Gas UK  
Oman Oil Holdings Spain

### ENGINEER/CONSULTANT:

Sener Ingenieria y Sistemas S.A.  
COBRA  
TOYO KANETSU K.K.  
DYWIDAG International, GMBH  
OSAKA GAS ENGINEERING.CO; LTD

### COMPLETED DATE:

2011

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Plant Water	Galvanized Carbon Steel	¾ – 6"/26 – 168 mm
Fire Protection	Carbon Steel and Galvanized Carbon Steel	2 – 10"/60.3 – 273.0 mm

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## project brief

**TYPE OF FACILITY:**  
Power Generation Facility



## Springfield Power Plant

■ Springfield, Illinois, United States

In early 2009, construction will be completed on the City of Springfield, Illinois 250 megawatt (MW) pulverized coal-feed power generation station. This is one of many projects on which Foster Wheeler has installed the Victaulic Style 152A expansion joint coupling on pulverized coal feed lines due to the outstanding performance and reliability of the product.

The Victaulic Style 152A expansion joint couplings were installed in conjunction with Style 77 flexible couplings on the pulverized coal feed piping, accommodating for up to four degrees of deflection, as well as expansion, contraction and rotation. The Style 152A provides an easily maintainable system that requires no pipe windows and protects the integrity of the system.

In addition, galvanized Victaulic Style 07 rigid couplings and fittings, as well as Series 705 butterfly valves were installed on the fire water lines.

**MARKET:**

Power  
Industrial  
Fire Protection

**VICTAULIC SOLUTIONS:**

Deflection  
Expansion and Contraction  
Ease and speed of installation  
Reliability

**OWNER:**

City Utilities of Springfield, Illinois

**ENGINEER:**

Foster Wheeler

**CONTRACTOR:**

Foster Wheeler

**COMPLETED DATE:**

February 2009



WCAS-7LPMPC

**SPECIFICATIONS:**

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Pulverized Coal Feed Lines	Cut Grooved Carbon Steel	18"/450 mm
Fire Water	Galvanized Carbon Steel	10"/250 mm

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## project brief

**TYPE OF FACILITY:**  
Containership



## City Wismar & Cape Mollini

■ Warnemünde, Germany

STX Europe, formerly Aker Yards, is an international shipbuilding company based in Norway. As the largest shipbuilding company in Europe and the fourth-largest firm in the world, STX requires that all vessels meet the highest of global industry standards.

In 2006, construction was completed on two containerships - Cape Mollini and City Wismar. Because Victaulic products meet stringent global approval standards, the Victaulic grooved pipe joining method was specified and installed on the ship's galvanized carbon steel drinking water, sea cooling water and fire protection lines.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Drinking Water	Galvanized Carbon Steel	1 – 8"/25 – 200 mm
Sea Cooling Water	Galvanized Carbon Steel	2 – 12"/50 – 300 mm
Fire Protection	Galvanized Carbon Steel	2 – 10"/50 – 250 mm

### MARKET:

Shipbuilding

### VICTAULIC SOLUTIONS:

Reliability  
Total Installed Cost  
Meets Global Approvals  
Ease & Speed of Installation  
Lightweight Product

### OWNER:

Schoeller Holding  
Limassol  
Cyprus

### CONTRACTOR:

STX Europe (Formerly Aker Yards)

### ENGINEER/CONSULTANT:

Aker Operation

### COMPLETED DATE:

2006

## project brief

**TYPE OF FACILITY:**  
Shopping Mall



## Centro Comercial Rivas

■ Madrid, Spain

Centro Comercial Rivas, located on Rivas Vaciamadrid in Madrid, Spain required an innovative piping solution for their mechanical room. In order to supply heating and cooling systems to eleven roof tops, the piping system was a critical element to the success of this project.

The Victaulic grooved piping system was chosen for this project due to ease of maintenance, speed of installation and the technical support offered by Victaulic. Victaulic grooved couplings, fittings, Vic-300 MasterSeal™ Butterfly Valves, check valves, strainers and balancing valves were utilized on the mechanical room piping system. The grooved products, installed on galvanized pipe, allowed the team to avoid welding, thereby avoiding noxious fumes associated with welding.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Hot Water	Galvanized	2 – 10"/60.3 – 273 mm
Chilled Water	Galvanized	2 – 10"/60.3 – 273 mm



**MARKET:**  
HVAC

**VICTAULIC SOLUTIONS:**  
Ease of Maintenance, Speed of installation, Technical support

**OWNER:**  
LUALCA Inmobiliaria

**CONTRACTOR:**  
WORESMAR SA

**ENGINEER/CONSULTANT:**  
AGUIRRE Asociados

**COMPLETED DATE:**  
2006



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## project brief

### TYPE OF FACILITY:

Plant



## Amcor Glass Bottling Plant

■ South Australia



During stage one of the new Amcor Glass Bottling Plant in South Australia, the project team required an innovative piping solution.

Amcor utilized the Victaulic roll grooved system on the compressed air, cooling water and vacuum lines and the cut grooved system on the cullett / process water lines.

The ease and speed of installation of the Victaulic system allowed the team to meet the accelerated construction schedule. Since there is a union at every joint with the grooved system, maintenance crews are able to reduce downtime associated with maintenance.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Compressed Air (Hot, Cold, Wet & Dry)	Galvanized	4 – 10"/114,3 – 273 mm
Cullett/Process Water	Galvanized	6 – 8"/168,3 – 219,1 mm
Cooling Water	Galvanized	4 – 10"/114,3 – 273 mm
Vacuum	Galvanized	4 – 8"/114,3 – 219,1 mm

**MARKET:**  
Industrial

**VICTAULIC SOLUTIONS:**  
Aggressive construction schedule, less maintenance downtime

**OWNER:**  
Amcor Glass

**CONTRACTORS:**  
Leighton Contractors

**ENGINEER/CONSULTANT:**  
Connell Wagner – Melbourne

**COMPLETED DATE:**  
2003



## project brief

**TYPE OF FACILITY:**  
Plant



## Colgate-Palmolive Plant

■ **Morristown, Tennessee**

The Colgate-Palmolive Plant located in Morristown, Tennessee is the new site for the Colgate-Palmolive's oral care manufacturing operations. With a construction schedule of 2½ months and a facility of 220,000 sq ft/2,043 m<sup>2</sup>, the owner mandated that the piping system should be maintained internally without having to involve expensive third party service contractors.

Victaulic was chosen for use on the compressed air services and chilled and domestic water systems because of its ability to maintain a fast track schedule within the required budget. Victaulic was also able to demonstrate its superior pipe joining technology over other grooved manufacturers.

Products used on this project included stainless steel, carbon steel and galvanized coupling fittings and valves as well as 14"/350 AGS products on the chilled water lines. The Victaulic bag and tag services were utilized when ordering product.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Compressed Air	Lightwall Stainless Steel	2½ – 4"/60 – 100 mm
Chilled Water	Carbon Steel	2½ – 14"/60 – 350 mm
Domestic Water	Galvanized Steel	2½ – 6"/60 – 150 mm

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**MARKET:**  
Industrial

**VICTAULIC SOLUTIONS:**  
Ability to compress schedules and demonstrate superior performance over other grooved manufacturers.

**OWNER:**  
Colgate Palmolive

**CONTRACTOR:**  
Interstate Mechanical

**ENGINEER/CONSULTANT:**  
Austin Company

**COMPLETED DATE:**  
December 2006



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## project brief

### TYPE OF FACILITY:

Mine



## Braunkohlebagger 260

■ Garzweiler - Grevenbroch, Germany

The Braunkohlebagger 260 Mine in Garzweiler - Grevenbroch, Germany needed a fire protection system for the retrofit of their 20 year-old brown coal excavator.

Victaulic galvanized couplings were chosen for their speed of installation and rubber gasket components that provided vibration attenuation within the piping system.

### MARKET:

Mining

### VICTAULIC SOLUTIONS:

Speed of installation,  
vibration attenuation

### OWNER:

RWE-Power

### CONTRACTOR:

Fischer Rohrbau

### ENGINEER/CONSULTANT:

RWE-Power

### COMPLETED DATE:

2004

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Fire Protection	Galvanized	1½" – 3" (48,3 mm – 88,9 mm)



## project brief

**TYPE OF FACILITY:**  
Cracker Plant



## IOCL Naphtha

■ Haryana, India

IOCL Naphtha is a cracker plant that is being built to produce butane and propylene for the production of plastic granules (polypropylene and polyethylene) at the Panipat Refinery in Haryana, India.

When looking at the different options to install the piping system, the owners and engineers soon decided that using the Victaulic system provided a better method of joining the galvanized pipe than welding.

The Victaulic pipe joining system is quick, easy and safe to install and without the use of special tools or certified installers. Choosing Victaulic eliminated the need for hot works, which simplified the health and safety requirements on site. Welding galvanized pipe creates hazardous fumes that can be completely avoided by using Victaulic couplings that are installed using a standard wrench. Using the Victaulic system provides an accessible union at every joint, which allows for faster, easier access to the system for future maintenance or system expansions.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Fire Protection	Galvanised steel	2 – 8"/60.3 – 219.1 mm

### MARKET:

Oil

### VICTAULIC:

Ease and speed of installation  
No hotworks needed  
Ability to easily retrofit  
Ease of maintenance  
Installation time savings  
Safety

### OWNER:

Indian Oil Corporation LTD

### CONTRACTOR:

Tecnimont / L&T

### ENGINEER/CONSULTANT:

Engineers India LTD

### COMPLETED DATE:

Fall 2009

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## project brief

**TYPE OF FACILITY:**  
Office and Shopping Center



## Kanyon Levent

■ Istanbul, Turkey



Located in the heart of the city at the intersection of two key Istanbul municipalities (Beşiktaş and Şişli), Kanyon is one of the most important residential and commercial projects not only in Turkey but also in Europe. Kanyon features homes with balconies, offices that integrate cohesively with work and pleasure and much more, all fused together with a unique approach to retail and entertainment in one extraordinary architectural shell.

In an effort to exceed national and international earthquake regulations, Victaulic was selected as the ideal pipe joining method for its ability to accommodate for seismic activity.

Victaulic Fire Protection systems and HVAC systems were used throughout the structure. Fire protection products included devices, sprinkler heads and accessories while the HVAC system was used on the cooling towers.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Fire Protection	Carbon Steel	2 1/2 – 8" / 73,0 – 219,1 mm
Cooling Tower	Galvanized	10 – 20" / 273,0 – 508,0 mm

### MARKET:

Fire Protection and HVAC

### VICTAULIC SOLUTIONS:

Speed of installation  
Ability to accommodate seismic movement

### OWNER:

Eczacıbaşı Topluluğu and İş Gayrimenkul Yatırım Ortaklığı Joint Venture

### CONTRACTORS:

DEMTA

### ENGINEER/CONSULTANT:

ARUP

### COMPLETED DATE:

2006



WCAS-727K8R

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## project brief

### TYPE OF FACILITY:

Sporting Event  
Stadium



## Safeco Field

Mariners Stadium

■ Seattle, Washington



The start of the Major League Baseball season was the critical deadline for this stadium project. Working on a fast-track schedule, Safeco Field had to be completed in time for the Seattle Mariners to take the field on Opening Day. This meant finding innovative ways to reduce the time required to complete this project.

As a vertically integrated manufacturer with its own galvanizing facilities, Victaulic was able to expedite material for the 24" (610,0mm) galvanized roof drain system under big league deadlines. To meet the imposed stringent deadlines, Victaulic was also specified and installed on all the waterlines.

### MARKET:

HVAC

### VICTAULIC SOLUTIONS:

Fast-track construction schedule

### OWNER:

King County

### CONTRACTOR:

WA Botting

### ENGINEER/CONSULTANT:

Flack & Kurtz

### COMPLETED DATE:

July 1999

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Rain Water Leader	Galvanized Grooved	4" – 16" (114,3 mm – 406,4 mm)
Domestic Water	Copper	2" – 6" (60,3 mm – 168,3 mm)
Heating Water	Carbon Steel	2" – 8" (60,3 mm – 219,1 mm)

## project brief

### TYPE OF FACILITY:

Hotel



## President Hotel and Rapid Transit Station

■ Taipei, Taiwan



The President Hotel and Rapid Transit Station is located in the Xinyi District of Taipei. Because this local landmark rises 31 stories into the sky a piping system which could provide a safe, reliable solution for accommodating seismic movement was required.

Victaulic grooved end piping systems were chosen for use in this landmark high rise because of their ability to accommodate stresses caused by seismic movement as well as accommodate expansion, contraction and deflection of the pipelines. By installing Victaulic, the use of expansion joints throughout the building was not necessary.

On the 14 to 24 inch piping system, Victaulic provided the Advanced Grooved System (AGS) line of products. AGS provides unmatched strength and reliability on large diameter piping system. Because of its unique two-piece coupling design, the joint assembly is faster and easier thereby compressing the construction schedule.

### MARKET:

HVAC

### VICTAULIC SOLUTIONS:

Reliability of AGS large diameter piping system  
Compressed the schedule  
Accommodates expansion, contraction and deflection

### OWNER:

Uni-President Corporation

### CONTRACTORS:

YUAN LIH ELECTRICAL ENGINEERING CO., LTD.  
GO-IN Engineering Co., Ltd.

### COMPLETED DATE:

2009

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Rainfall Drainage	Galvanized Carbon Steel	2 – 8"/60.3 – 219.1 mm
HVAC	Galvanized Carbon Steel	2 – 24"/60.3 – 610.0 mm

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## project brief

**TYPE OF FACILITY:**  
Pharmaceutical Factory



## Choongwae Dangjin Factory

■ Dangjin, Korea



Choongwae is the world's leading pharmaceutical and healthcare company based in Korea. Since its foundation in 1945, the company has extended its business to many pharmaceutical sectors. In order to meet the need of development, Choongwae invested over \$100 million to build its new factory in Dangjin. Choongwae Dangjin factory has an area of 31,931m<sup>2</sup> and total building floor area is 42,160m<sup>2</sup>, which is about 13 times the size of a football field. The factory consists of 6 five-story buildings for manufacturing general medicine, aseptic medicine, liquid medicine and solid formulation medicine. With a production capacity of up to 150 million pieces per year, Choongwae Dangjin factory has become one of the biggest pharmaceutical factories in Korea.

There were several challenges during construction, with the primary concern being an 8-month construction schedule. Additionally, as a pharmaceutical factory, the project needed to satisfy international standards and meet jobsite safety and environmental requirements. The owner and contractor also required the most reliable and highest quality product to meet the demands of high pressure systems. Compared with other pipe joining methods such as flanging and welding, the Victaulic mechanical pipe joining system was ideal for countering these challenges and was installed on the project's Fire Protection (FP) system and cooling water system.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Cooling, Chilled and Hot water	Galvanized Steel	2 – 24"/50 – 600 mm
Fire Protection	Galvanized Steel	2 – 8"/50 – 200A

### MARKET:

HVAC and Fire Protection

### VICTAULIC SOLUTIONS:

Speed of installation  
Ease of installation  
Time Savings  
Safety

### OWNER:

JW Pharmaceutical

### CONTRACTOR:

GS Engineering & Construction

### ENGINEER/CONSULTANT:

Humantech Korea

### COMPLETED DATE:

March 2010

[www.victaulic.com](http://www.victaulic.com)

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## project brief

### TYPE OF FACILITY:

Office Tower



## The Gateway

■ Singapore

The Gateway, a thirty-seven story twin-tower office building in Singapore, required an innovative piping solution. Condenser riser water pipe lines needed to accommodate the lateral building movement due to wind load. Also, because the piping was being installed in tight spaces, welding was not allowed due to fire hazards.

The Victaulic grooved system was the perfect choice for this project since the couplings can be oriented in any direction when tightening. This is extremely valuable when working in tight spaces. The grooved system eliminated the need for a fire watch, and utilizing flexible couplings allowed the designers to accommodate for the piping movement.

Victaulic products with galvanized finish were used to inhibit external corrosion on the condenser water and fountain water lines.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Condenser Water	Galvanized	16 and 18"/406.4 – 457.0 mm
Fountain Water	Galvanized	8 and 10"/219.1 – 273.0 mm



### MARKET:

HVAC

### VICTAULIC SOLUTIONS:

Fire hazard eliminated, accommodate pipe movement and tight spaces, ease of disassembly

### OWNER:

Gateway Land Pte Ltd

### CONTRACTORS:

Woh Hup Brightside

### ENGINEER/CONSULTANT:

J Roger Preston

### COMPLETED DATE:

1987



## project brief

TYPE OF FACILITY:  
Plant

## The Eaton Automotive Plant

■ Bielsko-Biala, Poland



The Eaton Automotive Plant located in Bielsko-Biala, Poland produces spare parts for various car models and is the largest American automotive plant in southern Poland. Eaton Corporation is the global leader in fluid power systems and services for industrial, mobile and aircraft equipment; electrical systems and components for power quality; automotive engine air management systems, powertrain solutions and specialty controls for performance and intelligent truck drivetrain systems for safety and fuel economy.

The Eaton plant was looking to install both a wet and dry fire protection sprinkler system. A cost savings analysis provided by Construction Piping Services, combined with the complete range of fire protection products turned the investor towards using Victaulic. After receiving positive feedback, the contractor accepted Victaulic. The fire protection sprinkler system was installed on carbon steel; galvanized pipes.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Water Fire Protection Sprinkler Installation	Carbon Steel - Galvanized Pipes	1 1/2 - 10"/48,3 - 273,0 mm

**MARKET:**  
Industrial

**VICTAULIC SOLUTIONS:**  
Speed and ease of installation

**OWNER:**  
Eaton Automotive - United States

**CONTRACTORS:**  
Mutimon Polska Sp. z o.o.

**ENGINEER/CONSULTANT:**  
Wikatech - Bipromet

**COMPLETED DATE:**  
March 2006



**victaulic**<sup>®</sup>

## project brief

### TYPE OF FACILITY:

Telecommunications Tower



## Menara Kuala Lumpur

■ Kuala Lumpur, Malaysia

Menara Kuala Lumpur in Malaysia is a highly innovative combination of retail, leisure, entertainment and hi-tech center for telecommunications. The building serves as the country's main telecommunications and multimedia broadcasting tower.

It is one of the tallest concrete towers in the world at 1380 ft (421 M) and also one of the tallest telecommunications towers in the world.

Victaulic grooved Style 77 flexible couplings were utilized on the riser pipes in order to provide angular deflection due to structure movement and sway from high wind loads. This allowed piping designers to include reliable joints for the potable water lines. Additionally, the flexible couplings used on the project accommodate seismic movements.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Fire Protection Riser	Galvanized	2½" – 8" (73 mm – 219,1 mm)
Potable Water	316 Stainless Steel	¾" – 8" (26,9 mm – 219,1 mm)

### MARKET:

HVAC

### VICTAULIC SOLUTIONS:

Angular deflection

### OWNER:

Telekom Malaysia Berhad

### CONTRACTORS:

Bintai Kindenco

### ENGINEER/CONSULTANT:

Wayss Freitag

### COMPLETED DATE:

1994



## project brief

### TYPE OF FACILITY:

Plant



## Amcor Stage 1

■ South Australia, Australia

Amcor Glass built a new glass bottling plant in South Australia. The owners required an innovative piping system that would allow them to have less downtime when performing maintenance.

Victaulic was used on compressed air, vacuum, cooling, and process water systems throughout the plant. The Victaulic grooved system not only provided ease of maintenance due to a union at every joint, but also shortened the up-front construction time.

### SPECIFICATIONS:

SERVICES:	PIPE MATERIALS:	PIPE SIZE RANGE:
Compressed Air (Hot, Cold, Wet and Dry)	Galvanized	4 – 10"/114.3 – 273.0 mm
Cullett/Process Water	Galvanized	6 – 8"/168.3 – 219.1 mm
Cooling Water	Galvanized	4 – 10"/114.3 – 273.0 mm
Vacuum	Galvanized	4 – 8"/114.3 – 219.1 mm

### MARKET:

Industrial

### VICTAULIC SOLUTIONS:

Speed of construction, less maintenance downtime

### OWNER:

Amcor Glass

### CONTRACTOR:

Leighton Contractors

### ENGINEER:

Connell Wagner - Melbourne

### COMPLETED DATE:

2003



# Piping. Systems. Solutions.

Mechanical pipe joining technology originated in 1925 when Victaulic designed the first grooved end pipe joining system for water and air service piping.

Recognized for its design capability and speed of assembly, Victaulic grooved end pipe joining technology transformed the piping industry, leading to dramatic gains in productivity. That's why among specifying engineers, owners and contractors around the world, Victaulic is the preferred mechanical system solution for new construction, retrofit and maintenance.

Visit [www.victaulic.com](http://www.victaulic.com) for more information.



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