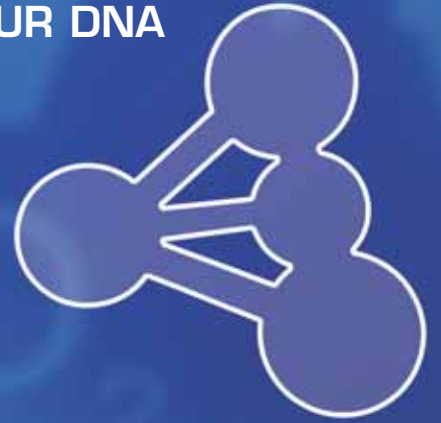




A FORMULA FOR CUSTOMER SATISFACTION

YOUR SUCCESS IS IN OUR DNA



www.bptfittings.com

THINK FAST...THINK ZINC...



Your Success Is In Our DNA

Quality, service, innovation, packaging, customer-centric decision making, ease of doing business, relationship marketing, flexibility, creativity – that's Bridgeport DNA.

The building blocks that drive everything we do to serve you better and meet the demands of our customers.

One Name Says It All – Bridgeport

Bridgeport is the only name on our letterhead – and that make us truly different. As one of the few major independent manufacturers left, we can afford to practice timely customer-centric decision making, instead of shareholder-focused numbers making. Bridgeport is a third-generation privately owned and managed company. Over the years, we've turned down buyout offers from the electrical giants – so you know we're here because we want to be. And, we're here to stay.

Stronger Relationships, Forged Personally

A cornerstone of our business philosophy is customer interaction. That's why we build relationships and demand at the local level, one-to-one. We back it up with flexibility, and creativity that makes it easy to do business and drives our mutual success. Because when you think zinc quality, and unmatched service, we want to be sure you think Bridgeport products and Bridgeport people.



Fittings Are Too Important To Be Commodities

What's the difference between a Bridgeport product and someone else's? Plenty. We make sure of it. There's a quality difference you can actually see and appreciate. We insist on quality features like deep-slot Tri-Drive screws, sure thread locknuts, spec-quality zinc, and even field-tough packaging with concise, accurate labeling. Because our customers tell us it's the "little things" that make a big difference, and ensure trouble-free installations.

When it comes to product selection and quality, we're never satisfied. We're continually expanding our product portfolio, giving you a steady stream of new products – with a focus on practical needs, easy installation, and cost-effective performance. So you can count on Bridgeport for more new products people want to buy. Because they are better.

THINK BRIDGEPORT...



Think Zinc

When you think zinc, there's no one else to consider but Bridgeport. But some things are more important to us than being a market leader. We're proud to be among but a handful of manufacturers who continue to invest in domestic operations. We're making capital improvements, process automation improvements, and developing new products – all in the U.S.

We doubled our capacity with the purchase of Regal Manufacturing assets, tools and dies. We're improving efficiency, flexibility and responsiveness throughout every facet of our business. We're investing in our U.S.-based manufacturing operation to improve our future and yours. All because it's the right thing to do.

Spec-Quality and Full-Line Selection

While we're proud to be the market leader for zinc die cast fittings, we also give you more. Bridgeport offers conduit and cable fittings in malleable iron, steel, aluminum, brass/bronze, and non-metallic. Because we feel it's important to deliver a product portfolio with the breadth and depth to meet your every need.

Quality, innovation, selection and availability – you get it all with the most important product attribute: a Bridgeport Circle B on the fitting. It's the mark that says you take pride in your work.

Smarter Thinking – Outside or Inside the Box

Whatever you need, Bridgeport engineers are thinking of a way to help you do it better. With solutions like:

- Quick Install products – from our patented simple snap-in connectors, to our unique single-screw AC/MC or NM cable connectors.
- Innovative products – from new three-piece Raintight couplings for rigid conduit to PVC jacketed MC cable connectors.

- Cost effective products – from quick-install steel expansion fittings to EZ Lock® steel connectors.
- Traditional, industry-leading products – from unique zinc die cast locknuts to the industry's best EMT zinc fittings, and more.



At the end of the day, Bridgeport has you covered. We've engineered in performance differences that can help you every day – better fit, faster install and assured quality out of the box. That's Bridgeport's kind of thinking.

Think Fast

Time is of the essence. So Bridgeport people don't just deliver, we serve. Whether it's full product line selection, fast decision making, easy and quick-install products, access to top management, or delivery speed and reliability, you can trust Bridgeport professionals to be on top of things.



Our premier network of manufacturers representatives gives you local management and decision making, day-in and day-out consistency and a high degree of integrity and trust.

So you have the presence, commitment and expertise to build brand preference locally. When you need results, you need Bridgeport.

Think Bridgeport, Your Supplier of Choice

With our commitment to customer-centric independence and our investment in new products and innovation, we're proud to deliver what it takes to make you a happy, successful customer.

From your first meeting with a Bridgeport representative to the on-time delivery of your latest order, we're here for you. And we thank you for being there for us. Together striving for our mutual success.

- Rigid/IMC Conduit
- Rigid/IMC Conduit Bodies
- EMT
- EMT Conduit Bodies
- Flexible Metal Conduit
- Liquid Tight
- Portable Cord
- Nonmetallic Cable
- Armored/Metal Clad Cable
- Grounding Fittings
- Clamps/Hangers
- Service Entrance
- Miscellaneous Fittings
- Technical Specifications





BRIDGEPORT FITTINGS, INC. TECHNICAL GUIDE

HOW TO USE THIS GUIDE

This guide has been developed as an easy to use, technical reference for specifiers, contractors, and inspection authorities. It is intended for use as a guide in the selection of electrical fittings manufactured by Bridgeport Fittings, Inc.

Underwriters Laboratories, Canadian Standards Association, and Federal Specifications are current at time of publication, but are subject to change without prior notice. Current listings are noted on the smallest unit carton label. Look for the appropriate logo.

For further assistance regarding information included in this guide, or any product inquiry, please call our Engineering Department at 203.377.5944.

Table of Contents

This brochure and technical manual has something of interest for everyone.

Whether you're a contractor, a facilities manager, an engineer, a specifier or an electrical distributor, this brochure can help you make better decisions about the products you use. The technical information, specifications and metallurgical overviews are all part of what makes Bridgeport the dedicated choice for zinc and all your fittings needs.

We encourage you to use this table of contents as your guide to finding the right information for you and your challenges. Then discover how Bridgeport products and expertise can help you excel every day.

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Originally established as The Bridgeport Switch Company, the company's product line consisted of electrical switches and receptacles. In 1930, Bridgeport began fulfilling customers' requests for fittings – a move so successful that the company shifted its focus to manufacturing conduit and cable fittings for the electrical industry.

Quality fittings constructed of malleable iron, steel, aluminum and brass became the main product focus, and in 1948 the company's name was officially changed to Bridgeport Fittings, Inc. Ten years later, two zinc die-cast products, the 3/8" BX and Romex connectors, were introduced and are still popular today.

Still privately owned and located in Stratford, Connecticut, Bridgeport Fittings produces America's number one quality fittings that are sold by distributors to contractors and other end-users in the industrial, commercial and residential channels of the electrical industry.

A Perfect Chemistry for Quality.



Quality Product, Process, Sales and Service

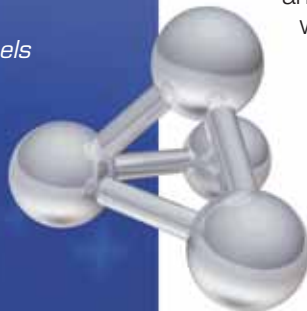
In 2006 Bridgeport Fittings, Inc. announced the purchase of certain assets of Regal Manufacturing, including the Regal Manufacturing name, all rights to the use of the Regal name, patents, drawings, trade marks, part numbers, third party listings, domain names, and tools and dies associated with the manufacture of Regal products. Bridgeport also acquired specific assembly and production equipment associated with the manufacture of Regal products.

The acquisition of specific assets of Regal, and the purchase of the Regal brand name, further strengthens Bridgeport's market position within the electrical industry and reconfirms the company's commitment to be the best in category manufacturer to the industry.

Both Regal and Bridgeport businesses have been based on a tradition of quality products, delivery, and customer intimacy. Both companies were built on strong values, have strong brand recognition and brand preference. The Regal name will continue to thrive under the Bridgeport banner.

Lower Total Cost

Using Bridgeport zinc costs less in the long run. From smooth and fast installation to long-term durability, we outperform the alternatives on both quality and lower total cost. So installers and end-users all come out ahead.





Quality Products

Bridgeport uses only carefully selected high-grade raw materials – steel, malleable iron, aluminum or zinc – to meet the high standards of the company's manufacturing process. In addition, all purchased component parts must meet or exceed Bridgeport's engineering specifications and drawings. By adhering to these quality standards, Bridgeport can deliver the easy-to-install products that customers expect.

Quality Finishing

After Bridgeport's extended manufacturing process, zinc die-cast fittings are burnished to make the surface of the fittings brighter and remove any scaling or discoloration. Using high-grade stainless-steel balls and special chemicals in the burnishing process, Bridgeport produces fittings with a quality lustre that improves the surface and value.

Quality Inspection

At Bridgeport, advanced inspection techniques are used to ensure the absolute quality and reliability that is built into every electrical product. Inspection begins with the receipt of purchased material and includes scheduled testing by trained inspectors, as well as continuous in-process inspection by assemblers and machine operators. This critical process safeguards consistency in manufacturing.

Quality Assembly

Bridgeport uses state-of-the-art automatic assembly equipment. Testing assures that screws can be driven to correct depth and torque, locknuts are threaded to the shoulder of the fittings, compression hex nuts are properly assembled to the body with gland ring in place, and reaming and chamfering assure smooth and easy wire pulling.

EDI-Based E-Commerce

As a pioneer of Electronic Data Interchange (EDI) in the fittings industry, Bridgeport has been extremely successful in reducing trading transactional costs, improving data accuracy and consequently enhancing productivity. The quality and efficiency of Bridgeport's operation has been proven with our trading partners in electronically communicating orders, acknowledgements, advanced shipping notices, invoices, payments, price/sales catalog data, and other industry-standard transactions.

Exceptional Customer Service

Bridgeport's quality is evident in its commitment to providing responsive, reliable and consistent sales support. By promptly delivering shipments in clearly labeled, heavy-duty corrugated packages to distributors, Bridgeport assures a fill rate well over 95% to customers across the United States. In addition, stocking distributors working on commercial or residential projects can rely on Bridgeport to provide same-day or next-day deliveries in most markets.

UL, CSA, NEMA

Bridgeport's product designs are continually reviewed for conformance to the latest National Electrical Code, UL or CSA requirements. Our listed products often exceed standards set by these agencies. Our involvement on many committees at Underwriters Laboratories, Canadian Standards Association and NEMA confirms our commitment to manufacture quality products.



A PEDIGREE OF PEERLESS PERFORMANCE

QUALITY • FUNCTIONALITY • VALUE

Since 1925, Bridgeport Fittings, Inc. has extended its tradition of quality and excellence to every aspect of its organization, from the company's line of approximately 2,000 metallic and nonmetallic electrical products, advanced inspection techniques and state-of-the-art assembly equipment, to its electronic data exchange, web-based order system, consistent sales support and exceptional customer service.

The Bridgeport line of electrical fittings was developed over many years of evolutionary and revolutionary improvement. The entire product line was originally conceived in accordance with sound wiring practices and in compliance with the requirements of the National Electrical Code and Underwriter's Laboratories standards. Over the years, Bridgeport has adhered to these standards religiously in every facet of the production of every product.



At the same time, there have been many innovations in technology at Bridgeport. Each one is evaluated first according to its impact on the quality of the product, and then according to its impact on cost. The result is a line of products which are unsurpassed in quality, functionality, and ability to deliver uncompromising value.

SEE FOR YOURSELF

Bridgeport Fittings offers any contractor, inspector, distributor, or manufacturer's representative a standing invitation to visit and inspect our facility. We invite you to tour our factory and see first hand the people and processes behind Bridgeport's quality. Call us and let us know when you plan to be in our area.

Why does Bridgeport use Specific Zinc Alloys?

The basic raw material from which most Bridgeport cable and conduit fittings are manufactured is a zinc die casting alloy which is closely controlled by specification, certification, and outside analysis.

ZINC ALLOY SPECIFICATIONS

The basic specifications of Bridgeport's zinc alloys are found in ASTM B86. These primary alloys, designated as ZAMAK 7, ZAMAK 3, or ZA-12, are expressly specified by Bridgeport. We only use the highest purity zinc alloys to ensure the highest quality castings. ([See Appendix VI](#))

The functional advantages of these particular alloys and their purity include increased dimensional stability, and reduced inter-crystalline oxidation in our finished castings. In simple terms, it means that Bridgeport's fittings can adhere to tighter tolerances, and won't get brittle and crack no matter how long ago they were manufactured.

MATERIAL CERTIFICATIONS

The certification of every delivery of alloy or raw material received by Bridgeport guarantees that all material used conforms to the specification as described under [Appendix V & VI](#).

In the case of our zinc alloys, these certifications are made by our vendor in accordance with ASTM B86. Each batch is chemically analyzed using Emission Spectrochemical Analysis, and reported by the vendor's laboratory on a certification document that accompanies each delivery. These certifications are legal documents that warrant the chemical composition of the zinc alloy and ultimately help guarantee the quality of Bridgeport's zinc castings.

We also require certifications for other raw materials which are used in listed product. An example is UL Listed plastic components must be certified to pass the UL94V Flammability Specification Test.

These certifications are examined at several points before a delivery is accepted. Receiving, Quality Control, Die Casting, Purchasing, and Accounts Payable personnel all review the certifications.

STEEL vs. ZINC?

Steel has been used for years in the manufacture of many electrical products. Why would the best fittings not be made of steel? The answer lies in the performance requirements of conduit fittings. These standards are specified in UL 514B, and are based on the National Electrical Code. A properly designed and manufactured zinc alloy fitting can exceed the requirements of UL 514B, and offer several functional advantages besides a savings in installation cost. The perception that steel fittings will outperform similar type fittings manufactured from die cast zinc is untrue. In fact, just the opposite may be true.



During the listing process at Underwriters Laboratories, ALL fittings, regardless of material, are tested to the same stringent UL 514B standard to comply with application requirements of the National Electrical Code.

For example, ALL EMT connectors are subjected to the following tests:

- Method of assembly
- Screw torque test (set screw type) or Hex nut torque test (compression type)
- Metallic coating thickness test (steel only) Concrete-Tightness test (set screw type or compression type) or Rain-Tight test (compression type)
- Bend test and Pull test
- Electrical Resistance test
- Ground Fault current test
- EMT deformation test (set screw type only)

The same parameter test values are used throughout the UL testing procedure *regardless* of material. Some functional tests include set screw torque of 35 in-lbs. (160 in-lbs. for hex head screw), compression nut torque of 175 in-lbs. (1") to 1600 in-lbs. (2" and up), conduit pull test of 300 lbs. (1") to 1000 lbs. (2" and up), and current test of 1180 amperes for 4 seconds (1") to 5050 amperes for 9 seconds (3" and up).

In addition to similar performance characteristics, zinc die cast fittings are accepted by Federal Specifications A-A-50553, A-A-50552, A-A-50563, and ANSI/NEMA FB 1.

PRIMARY BENEFITS OF DIE CAST ZINC FITTINGS

1. DIMENSIONAL CONSISTENCY

Perhaps the most important advantage is that of dimensional consistency. The high quality zinc alloys Bridgeport uses are unique in their ability to hold very close tolerances in our properly designed dies. A maximum variation of +/- .002" in a particular dimension from one casting to another is not unusual. Long-term consistency of this kind is difficult to achieve in steel.

2. CORROSION PROTECTION

An important advantage of zinc alloys over steel is its inherent corrosion protection. The NEC requires that all ferrous metal surfaces be protected with a coating, typically zinc plating. Zinc alloy fittings do not need protective coating because the protection goes all the way through. The corrosion resistance of Bridgeport's fittings is enhanced by a burnishing process, which is applied to each cast component immediately after the casting and trimming process. Burnishing closes the surface porosity, and gives Bridgeport's fittings their characteristic shine.

3. FUNCTIONAL ADVANTAGES

One of the most noted advantages of zinc fittings is with their ease of assembly with a locknut. Threading a zinc locknut onto a zinc connector is much easier than with the same assembly in steel. The reason lies in zinc's inherent surface smoothness and lubricity not found in steel or zinc-plated steel fittings. The result is a locknut that can easily be threaded onto a connector by feel and with little effort. One other functional advantage is the reduction in weight vs. a steel fitting. Pound for pound, die cast Zinc is about 16% lighter than cold rolled steel. This translates into easier handling of inventory.





AN ENTIRE PRODUCT FAMILY WITH THE SAME QUALITY DNA

BRIDGEPORT'S QUALITY CONTROL

Bridgeport uses only carefully selected high-grade raw materials – steel, malleable iron, aluminum or zinc – to meet the high standards of the company's manufacturing process. In addition, all purchased component parts must meet or exceed Bridgeport's engineering specifications and drawings. By adhering to these quality standards, Bridgeport can deliver the easy-to-install products that customers expect.



At Bridgeport, advanced inspection techniques are used to ensure the absolute quality and reliability that is built into every electrical product. Inspection begins with the receipt of purchased material and includes scheduled testing by trained inspectors, as well as continuous in-process inspection by assemblers and machine operators. This critical process safeguards consistency in manufacturing.

Bridgeport's quality control system is based on MIL-Q-9858, and the inspection system is based on MIL-I-45208. Our goal is to have less than a 1% defect rate. We constantly monitor our internal manufacturing processes with regular inspections, including first and last piece, as well as in-process inspections. Our quality teams meet daily and weekly to discuss and rectify issues that result in non-conforming product. We track and monitor these production issues and insure they are addressed. The end result is unsurpassed quality and value to our customers.

The key to making any quality product is to expertly control the materials, dimensions, and tolerances of every component involved. While we manufacture as much as possible in-house, some components are ultimately purchased from outside vendors. We find that vendors will often suggest ways to cut corners and save money. These suggestions are almost always rejected by Bridgeport, since the only primary design considerations are function and quality. Economic considerations are met by the volume resulting from the demand for our high quality product priced at a reasonable level.

In addition, Bridgeport minimizes the variable effect of outside sources by producing its own components whenever possible. Such items as fitting covers, locknuts, and compression rings are produced under the careful control of the same Bridgeport engineers who produce the castings. The result is a line of fittings that function perfectly together.

PRODUCT FEATURES SPOTLIGHT



SCREWS

Screws are one of the most carefully controlled components used in the manufacture of Bridgeport's fittings. Each screw is individually specified by Engineering, depending upon the requirements of each application. After specification, screw designs are sent to Purchasing for quotation and design refinements. Bridgeport's Tri-Drive screws are specifically designed to work with three different types of drivers; Phillips, Straight Blade, and Robertson (square). Each screw is coated with quality zinc plating. The result is a screw that can handle the rigors of today's automatic drivers in the field.



ZINC LOCKNUTS

Locknuts are critical to the function of a fitting, yet many manufacturers offer the least expensive locknuts available – especially in zinc. Some offer a nut that has less than one complete thread to engage the fitting. Still, others use a very thin locknut that may never have been submitted to UL for listing with conduit.



Bridgeport has a unique zinc locknut which is perfectly matched to the fitting in every size - perfectly matched because the thread of the locknut and the thread of the fitting are designed by Bridgeport's engineers, produced in Bridgeport's or other authorized factories, and inspected by Bridgeport's Quality Control specialists. The locknuts themselves are of excellent quality, listed by UL for use inside or outside a box, on fittings, and on some conduit sizes. The result of this attention to detail is a fitting that can be installed with a single spin of the nut, a small advantage, but a benefit multiplied by the many millions of fittings sold by Bridgeport each month.



When installing connectors to enclosures, NEC article 250.96 requires effective bonding of the metallic raceway to the box or enclosure to maintain continuity and safely conduct ground fault current likely to be imposed. Additionally, non-conductive paint or similar coating must be removed at the locknut contact surface unless the fitting is designed to remove the coating during normal assembly.

During a fact-finding study conducted by UL, the observation was made that die cast zinc serrated locknuts, such as those manufactured by Bridgeport, have the ability to remove non-conductive coatings and safely maintain ground fault current.



Other styles of die cast zinc locknuts, such as flat or "nibbed" types, had difficulty passing this UL testing.

All of Bridgeport's zinc die cast connectors feature reversible serrated zinc die cast locknuts, which provide increased coating penetration and gripping power. Precision cut threads and extra tightening lugs ease assembly.

To ensure proper removal of paint or coating from enclosure, install the connector into the opening, assemble locknut hand tight, and then tighten the locknut 1/4 additional turn. After assembly, look for shiny surfaces in between lugs on the enclosure where the paint or coating has been removed. Always use UL listed connectors with Bridgeport's unique serrated, cut thread, die cast zinc locknut such as Bridgeport Cat. Nos. 101-DC through 110-DC.



BROAD PRODUCT LINE
CONTRACTOR DEMAND



QUALITY V A T I O N



BORN OF QUALITY DESIGN, NURTURED WITH QUALITY MANUFACTURING

Many of the processes and tools used in the manufacture of Bridgeport Fitting's products are proprietary. However, we have provided a brief overview below:

COMPUTER AIDED DESIGN (CAD)

Bridgeport's engineering department has standardized on the latest version of SolidWorks™ CAD software for all products and tooling design. In addition, we also maintain and use CadKey™, which was previously used to make older drawings. SolidWorks™ allows Bridgeport to create 3D designs inside the computer. This helps the engineer to better visualize the design in ways that older 2D systems cannot provide. The result is a value engineered product capable of meeting all required specifications.



After a component is designed in CAD, engineering may use Rapid Prototyping (RP) technology to 'print' out precise, 3D, plastic parts to evaluate before tooling is made. These models are so accurate, engineering can actually test them with mating components to further validate designs.

Bridgeport's CAD files are then able to be exported to a Computer Aided Manufacturing (CAM) system, which is able to directly machine the tools that make production components. The equipment that is compatible with CAM is Bridgeport's Computer Numerical Control (CNC) Milling or Electro-Discharge Machining (EDM) equipment.

What this all means is that Bridgeport's engineers and toolmakers have the latest tools and technologies to properly and expertly create high-quality and precision tooling, thereby allowing better development and evolution of product design.



IN-HOUSE TOOLING

Tools, dies, molds, and sophisticated automated production machines are produced in-house, by our own Tool and Die Department. Virtually every tooling element is routinely produced and maintained to the highest standards in the industry. Our expert tool and die makers maintain a large quantity of tools, including die cast molds, progressive stamping dies, automated fixturing, and assorted custom tooling.

Typical tolerances for finished castings are to within .003" or less, and tooling tolerances are often as small as to within .0005" for critical dimensions. In addition, our stamping dies are designed and maintained to prevent tool breakage and component issues. We have invested heavily in our CNC milling and lathe operations, as well as our CNC Wire and Electrode EDM equipment. What this all means is that our tooling parts are more consistent and are easier to replace when worn.

AUTOMATED MANUFACTURING

Once designed and built, Bridgeport tooling runs in some of the most modern and best-maintained equipment in the industry. Many of our diecast machines are fully automatic with computer process controls. Some castings are trimmed in a separate operation on hydraulic presses to insure a clean parting line and virtually perfect external threads. Other castings are automatically trimmed in the casting machine, which shortens process time. Our state-of-the-art automatic assembly equipment tests all important fittings characteristics before assembly. These checks include screws driven to correct depth and torque, locknuts threaded near the shoulder of the fittings (to prevent coming loose during shipping), compression hex nuts properly assembled to body with gland ring in place, and smooth reaming and chamfering of fitting throats for ease in wire pulling.





BUSINESS-BUILDING QUALITIES GENERATION AFTER GENERATION

INNOVATION

Since 1925, Bridgeport has been a leader in conduit and cable fitting design and development. In 1958, we developed our BX and Romex connectors, which are still very popular today. Over the years, our innovation has continued with many different products that have become standards in the industry today. In 2000, we developed the first single screw strap connectors (651 & 851) which save time and money. In 2004, Bridgeport came out with the Whipper-Snap® line of quick install MC/AC fittings that are easy to install AND easy to remove (38ASP, 3838ASP, SG38ASP, etc). In 2005, Bridgeport was the first to offer a truly rain-tight, UL Listed, EMT compression fittings (260-RT Series). In 2006, Bridgeport developed an entire line of colored steel EMT fittings to match the colored conduits available in the market (such as 230-SR & 240-SR series). These fittings are patented and unique to Bridgeport due to their durable coating and color visibility when viewed from inside a junction box.

Today, Bridgeport still continues to develop new and innovative products that are designed to save the customer time and money. Bridgeport has many products that are covered by one or more of the following US Patents:

US Design Patents

D545,650	D535,949	D538,751	D538,752
D539,751	D534,060	D473,783	D479,984
D530,678	D518,791	D439,828	D408,790
D404,362	D365,510	D360,188	

US Patents

7,214,890	7,205,489	7,164,086	7,154,042
7,151,223	7,075,007	7,071,410	7,064,273
7,064,272	7,057,107	7,045,714	7,022,914
7,002,076	6,953,894	6,935,891	6,916,988
6,872,886	6,861,585	6,860,758	6,817,895
6,765,143	6,737,584	6,555,750	6,444,907
5,342,994	5,189,258	2,304,167	2,122,252
2,137,840	1,750,469	1,579,361	

TRADEMARKS

The following are trademarks of Bridgeport Fittings, Inc.:



- 38 Special®
- Whipper-Snap®
- Bridgeport Quality Conduit & Cable Fittings®
- Bridgeport Switch®
- Red®
- Regal®
- Regal Fittings®
- Regal Manufacturing®
- Go Deep®
- My Bridge®



SUPERIOR FINISHES

After Bridgeport's extended manufacturing processes, zinc die-cast fittings are burnished to make the surface finish of the fittings brighter, to close surface porosity and enhance corrosion resistance, and to remove any scaling or discoloration. Using high-grade, stainless-steel media and special chemicals in the burnishing process, Bridgeport produces fittings with a quality luster that improves the surface finish and value.

The purpose is to reduce installation costs, and to increase installation quality for end users. Smoother and cleaner fittings assemble more easily and quickly, especially in bad weather. Wire pulling is never slowed down by a Bridgeport fitting.

Our steel component parts are zinc plated per ASTM B633 – Type I, Bright or Semi-Bright, and UL514B - 5.1.3.1, Table 17. We constantly monitor our zinc plating quality and thickness to insure a durable, high-performance, corrosion-resistant coating.

DAILY INSPECTIONS

Most of Bridgeport's fittings are assembled and machined on highly automated production equipment, and each of these machines are purpose-designed and built by Bridgeport to conduct multiple inspections of the product being manufactured. Many thousands of automated inspections are made each day at the Bridgeport factory. As a result, customers are assured of the high quality of each Bridgeport fitting purchased.

CRAFTSMANSHIP

Bridgeport is proud of its personnel. The demands of producing the best fittings available require that competent and well-trained people care about good workmanship.

PACKAGING

Bridgeport assures our products get to market ready for installation by providing quality packaging second-to-none in the industry. Our heavy-duty, corrugated packaging, is designed for full product fill, is top loading for easy product access, and is shaped to maximize shelf space. All packaging is clearly labeled with application and certification data.

PACKAGING BAR CODES

Bridgeport provides bar coding symbols on all of our shipping containers, which helps distributors speed up shipping, receiving, and inventory control.



Bridgeport follows identification guidelines set forth in 1987 by efforts of the National Electrical Manufacturers Allocation (NEMA), the National Electrical Manufacturers Representatives Association (NEMRA), and the National Association of Electrical Distributors (NAED).

These standards employ the use of the UPC Shipping Container Symbol (Interleaved 2 of 5).

Bridgeport can send you the necessary information that relates to our bar code numbers, their descriptions, and package quantities.



CUSTOMER SERVICE HIGH FILLS RATES



ELECTRICAL CODES, STANDARDS AND INSPECTION AUTHORITIES

Bridgeport's products are conceived, engineered, manufactured, and inspected according to the recognized standards of the electrical industry. The Bridgeport catalog carries references by individual product to Underwriters Laboratories and Canadian Standards Association control numbers. Wherever listings are required by our customers, they are obtained and maintained. We also will obtain other listings which may be required for specific applications or geographical areas.

Bridgeport's product designs are continually reviewed for conformance to the latest National Electrical Code, UL, CSA, MIL-SPEC, and Federal Specification requirements. Our listed products often exceed standards established by these agencies.

Our involvement on many committees at Underwriters Laboratories, Canadian Standards Association, and NEMA, confirms our commitment to manufacture quality products. When they are required by our customers or end users, they will be obtained wherever possible. Requests for such listings should be directed to the Bridgeport factory or factory representatives.

THIRD PARTY CERTIFICATION LISTINGS

Currently, Bridgeport Fittings maintains listings at UL and CSA. However, we are not limited to certain marks, such as UL or CSA. NEC Articles 100.3(A&B), 90.7 & 100 defines product approval as being listed and labeled by a *third party*.

In fact, there are other certification organizations equally recognized and accepted. These testing and certification laboratories are included on a *Nationally Recognized Testing Laboratory* (NRTL) list. The NRTL program is part of the Occupational Safety and Health Administration's (OSHA) directive to ensure products are safe for use in the U.S. workplace. It recognizes the capabilities of private-sector testing organizations to determine whether a specific product meets safety standards developed by the American National Standards Institute (ANSI), Underwriters Laboratories (UL), American Society for Testing and Materials (ASTM), MIL-SPEC, and others. Each of the NRTL's is certified by OSHA to be able to provide testing services for one or more specifications (i.e. UL, ASTM, ANSI, NEMA, etc.). The current OSHA NRTL list and each lab's testing capabilities can be found at:

<http://www.osha.gov/dts/otpca/nrtl/index.html#nrtls>



Like the  UL and  CSA marks, other marks also indicate that our product has been independently tested by a NRTL, and that it has met the minimum requirements of widely accepted product safety standards (such as UL 514B). It also indicates that we have agreed to periodic follow-up inspections to verify continued compliance. The following are examples of other approved NRTL's that Bridgeport may use in the future:



DETAILED STANDARDS

The standards by which conduit fittings are manufactured are maintained on a current basis at the Bridgeport factory. (See Appendix IV)

All questions relating to the application of these standards are welcomed. They include relevant Underwriters' laboratories standards, Federal Specifications, and ASTM and ANSI Standards. See Appendix I, II, & III to determine the applicability of appropriate CSA, UL, NEMA, and Federal Specifications identification, standard and file numbers.



DISSIMILAR METALS

The NEC requires, where applicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action (NEC Articles 110.14 & 250.70), Steel EMT, steel rigid conduit, steel straps and hangers, and steel outlet and junction boxes are almost universally plated or coated with zinc or other corrosion inhibitor. Wherever Bridgeport's fittings come in contact with these raceway components, similar metals are touching, since the fittings themselves are constructed of zinc or have zinc-plated steel parts. Use of our products in the application for which they are designed, will be compliant to this requirement.

RoHS COMPLIANCE & ENVIRONMENTAL STATEMENTS

The directive on the **Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment** (commonly referred to as the Restriction of Hazardous Substances Directive or **RoHS**) was adopted in February 2003 by the European Union. The RoHS directive took effect on July 1, 2006, and is required to be enforced and become law in each member state of the EU. This directive restricts the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment. It is closely linked with the Waste

Electrical and Electronic Equipment Directive (WEEE) which sets collection, recycling and recovery targets for electrical goods and is part of a legislative initiative to solve the problem of huge amounts of toxic e-waste. The following substances are restricted by RoHS:

1. Lead
2. Mercury
3. Cadmium
4. Hexavalent chromium (chromium xxx or Cr6+)
5. Polybrominated biphenyls (PBB)
6. Polybrominated diphenyl ether (PBDE)

All of Bridgeport's products comply with the RoHS Directive. As a side note, many of our products are exempt from the RoHS Directive, as they are typically used in fixed industrial/commercial buildings and equipment.

Bridgeport Fittings, Inc. is committed to being environmentally responsible. We have obtained and maintain the proper permits, and have proper waste disposal processes and procedures in place to make sure we are compliant with all local, state, and federal environmental regulations. We also recycle our zinc scrap in house to reduce our impact on the environment.



Bridgeport Fittings, Inc. does not use any Ozone Depleting Substances in the manufacture of its products.



KNOW HOW TO ASK FOR THE BEST



How Do I Specify Bridgeport Fittings?

Many contractors and engineers ask us how to specify Bridgeport and make sure that's what is installed. A general specification may read as follows:

"FITTINGS: Metal conduit and EMT fittings shall be zinc-plated malleable iron, steel, aluminum, or zinc die cast as manufactured by Bridgeport Fittings, Inc. Connectors and couplings shall be threaded, set screw, or compression type, concrete-tight or rain-tight, when properly installed. Conduit bodies shall be malleable iron or aluminum, with cover gaskets when exposed to weather."

Other characteristics that set Bridgeport apart from other fittings include:

- Ball burnished finish on all die cast zinc components
- **(B)** logo appears on each fitting and/or box
- Steel parts are quality zinc plated for corrosion protection
- Zinc locknuts have precision machine-cut threads & serrated faces
- All set-screw products have staked screws
- Throat diameters are smooth with no sharp edges
- Quality materials are used for every component

For answers to specific product questions please contact Bridgeport's engineering department.

MEMBERSHIPS AND CREDENTIALS

Bridgeport Fittings, Inc. maintains membership in the National Electrical Manufacturers Association (NEMA) and actively participates in its efforts to develop and maintain high standards for the electrical industry. Bridgeport also has an active membership in the National Fire Prevention Association (NFPA) in order to support the writing and revision process of the National Electrical Code (NEC), and to make every effort to contribute to the value of the code as a safety standard. In addition, Bridgeport is active on the technical advisory committees of Underwriters Laboratories, Inc (UL) in order to contribute to the maintenance and fair application of a universal standard in the National Electrical Code.



NATIONAL ASSOCIATION OF ELECTRICAL DISTRIBUTORS
ASSOCIATE MEMBER

We welcome comments from users of Bridgeport's products whenever the need is felt to bring an issue to the attention of any of the organizations we are affiliated with. This kind of advocacy is part of the responsibility shared by all within the industry, and your input counts.



PRECISION MANUFACTURED
INDEPENDENTLY OWNED



SUPERIOR FEATURES IN A SINGLE PRODUCT LINE.

Bridgeport and Regal – the two names you knew for quality and innovation. From everyday workhorse products like EMT fittings, to unique innovations for every application, now you only need to go to one place: Bridgeport. Because two great names are now one-stop shopping with the new Bridgeport-Regal.

With Bridgeport-Regal products you get our commitment to put quality first, with all these industry leading advantages you already know:

- Connectors feature precision cut threaded locknut with minimum of one full thread that spins easily using one finger effort
- Locknut won't 'jump' threads on connector when fully tightened
- Serrated locknuts are reversible and tighten snugly against the outlet box
- Combination Slotted/Phillips or Tri-drive screws for easier tightening
- Screws assembled to pre-set torque and depth won't fall out during shipping and handing, ready to use right out of the box
- Screws turns freely even using a coin such as a dime
- Smooth and rounded throat openings protect wiring
- High quality 99.5% pure certified zinc alloy
- Continuous in-process inspections of all operations
- Ball-burnished for brilliant finish and appearance
- Packed in extra heavy duty box and clearly labeled with application and certification data

QUALITY COMES IN FULL SELECTION:

No matter what the challenge, you only need to know a single solution: Bridgeport-Regal. We have all these fittings, and more, in stock and ready to go:



EMT FITTINGS

- Trade sizes 1/2" to 4"
- Available in set screw or compression styles
- Ribbed design for added strength on set screw EMT connectors and couplings bodies



MC CABLE FITTINGS

- Use with all popular metal clad cable up to 3-1/2" trade size



NONMETALLIC CABLE FITTINGS

- Use with nonmetallic sheath cable 1/2 up to 2" trade size
- Heavy duty zinc die cast strap will not bend like thin steel straps



FMC FITTINGS

- Variety of styles such as squeeze, set screw, screw-on, removable cover, and 90°
- Trade sizes 3/8" to 4"



FITTING LOCKNUT

- Reversible serrated zinc die cast locknuts
- Precision cut threads and extra tightening lugs ease assembly

PROVEN QUALITY. UNRIVALED SELECTION. COMMITTED SERVICE. READY TODAY.

FEATURE	FUNCTION	BENEFIT	APPLIES TO
UL, CSA or other third-party listings	Bridgeport's fittings are listed according to the standards as shown in Appendix I, II, & III. Listing authorization numbers appear clearly in the catalogs and on inside and outside carton labels. UL & CSA logos appear on fittings as appropriate	Since Bridgeport's fittings are tested and listed according to the same performance standards as their steel counterparts, large cost savings are possible wherever the NEC is applied and properly interpreted by local inspection authorities.	All fittings as appropriate, see Appendix I, II, & III
Sturdy cardboard packaging and clear labeling	High strength cardboard stock and box design help keep parts in boxes during rough handling. Clear labels provide quick identification of trade size. Inside cartons are reclosable, and may be used to dispense from.	Waste resulting from package breakage is minimized. Clear labeling helps identify and inventory parts correctly.	All Bridgeport products
Carefully specified, certified and controlled alloys	Intercrystalline oxidations are minimized. Dimensional stability is maximized. Consistency is guaranteed from one batch to the next.	All Bridgeport die castings are consistently of the highest quality possible. Die longevity is unmatched. The user does not need to worry about breakage in typical installations.	All die cast fittings
Ball burnished finish	Reduces mechanical friction between surfaces of casting and components. Closes surface porosity. Cleans fittings	Faster & easier assembly. Locknuts spin on with one easy turn. Corrosion is retarded substantially. Wires pull through fittings more easily. Hands stay cleaner upon installation. Cleaner fittings are easier to grip and install. Finished job is neater in appearance.	All die cast fittings
Matched & Engineered components	Eliminates compromises of outside purchased components Provides greater mechanical compatibility. Increases consistency of quality from one lot to another.	Faster, easier assembly. Eliminates wasted fittings and lost time resulting from defective or ill-fitting components. Hi-Performance, finished installations.	All Bridgeport products
Automated assembly and inspection	Virtually eliminates the shipment of fittings with missing or improperly installed components. Reduces costs. Increases consistency of quality from one product to another.	Screws, locknuts, and compression rings are always ready for installation and require no adjustment. Eliminates the cost of unusable fittings.	All high-volume die cast fittings
Bridgeport's fully threaded zinc locknut	Installs smoothly on matched threads of connectors. UL listed individually allowing use with conduit (up to 2"). Installs either side towards box. Full threads and thickness combine to engage thread immediately. Serrations on both sides to pierce paint or coatings where necessary.	Serrations cut through coatings to provide a reliable grounding path. Two full threads engage firmly even if only a little of the fitting or threaded nipple is accessible. True, machine-cut threads spin smoothly and quickly to install economically.	All connectors through 4"
Staked set screws	Prevents the inadvertent movement of a set screw from its original position. Prevents set screws from falling out in transit.	Conduit can be inserted into bore of fitting without adjusting position of set screws. Set screws can be tightened with a minimum number of turns on screwdriver. The problem of missing screws is eliminated. Greater efficiency and economy result.	All set screw connectors and couplings
Connector throats are generally rounded	Eliminates small burrs or a sharp edge that can damage conductor insulation and injure fingers.	Eliminates potential for short circuits resulting from cut or scored conductor insulation. Reduces the possibility of minor injuries. Eliminates flash and obstructions in throat of connector.	Most fittings
Large size compression nuts have more flats	Eight to twelve sides provide one-third to double the flats to grip per side over a standard octagon. The shape is more compact radially.	In tight spots, the Bridgeport fitting is much easier to engage than a hexagonal nut. It takes up less space than a hex so less time is spent fighting the installation.	All Bridgeport compression connectors and sizes 2-1/2" through 4"
All flexible metal connectors are UL listed for grounding, as per NEC 350.5	Ground return paths consisting of installations as described in NEC Article 350.5 may contain Bridgeport's fittings.	When installed in accordance with the NEC, Bridgeport flex and armored cable connectors are good for any installation for which they are designed, even where grounding is required. Carton labels carry clear and concise explanations in order to inform inspectors and contractors.	All 3/8", 1/2" & 3/4" trade size flex and AC & MC connectors



APPENDIX

APPENDIX I



Listing File Numbers

<u>CATEGORY</u>	<u>FILE No.</u>
Armored Cable Connectors, Type AC	E20534
Armored Cable Connectors, Type AC Certified for Canada	E20534
Caulking and Sealants Certified for Canada	R25422
Caulkings and Sealants	R25422
Conduit and Cable Hardware	E161206
Conduit and Cable Hardware Certified for Canada	E161206
Conduit Fittings	E191572
Conduit Fittings Certified for Canada	E24001
Conduit Fittings Certified for Canada	E191572
Conduit Fittings for Use in Hazardous Locations	E312219
Electrical Metallic Tubing Fittings	E24001
Electrical Metallic Tubing Fittings Certified for Canada	E24001
Metal-clad Cable Connectors, Type MC	E191676
Metallic Outlet Boxes	E11077
Metallic Outlet Boxes Certified for Canada	E11077
Nonmetallic-sheathed Cable Connectors	E11698
Optical Fiber/Communications/Signaling/Coaxial Cable Outlet Boxes	E302367
Optical Fiber/Communications/Signaling/Coaxial Cable Outlet Boxes Certified for Canada	E302367
Outlet Bushings and Fittings	E11259
Outlet Bushings and Fittings Certified for Canada	E11259
Tape, General Use	R14730
Transformers, Class 2 and Class 3	E308949
Visual-signal Appliances	E312242
Visual-signal Appliances	E305841
Visual-signal Appliances Certified for Canada	E312242
Visual-signal Appliances Certified for Canada	E305841
Wire Connectors and Soldering Lugs	E155561

APPENDIX II



CSA Listing File Numbers

<u>Class</u>	<u>Class Description</u>	<u>File Number</u>
9052-01	INSULATING DEVICES AND MATERIALS-Bushings	71053
4412-01	OUTLET BOXES AND FITTINGS-Bushings, Fittings	039354_0_000
4412-02	CONDUIT FITTINGS-Fittings For Metal Conduit	039354_0_000
4412-03	CONDUIT FITTINGS - Fittings For-Nonmetallic Conduit	039354_0_000
4414-01	FITTINGS-Armored Cable	039354_0_000
4414-03	FITTINGS-Electrical Metallic Tubing (EMT) - Steel	039354_0_000
4414-05	FITTINGS-Non-Metallic Sheathed Cable	039354_0_000
4414-08	FITTINGS-Cable - Hardware	039354_0_000
4415-01	STAPLES AND STRAPS-Armored Cable	039354_0_000
4415-02	STAPLES AND STRAPS-Conduit	039354_0_000
4415-04	STAPLES AND STRAPS-Electrical Metallic Tubing (EMT)	039354_0_000
9085-01	AUTHORIZED PACKAGERS OF CSA CERTIFIED PRODUCTS-	052255_0_000
4412-02	CONDUIT FITTINGS-Fittings For Metal Conduit	702847
4415-02	STAPLES AND STRAPS-Conduit	702847
4412-02	CONDUIT FITTINGS-Fittings For Metal Conduit	74878
4414-05	FITTINGS-Non-Metallic Sheathed Cable	74878
4418-02	OUTLET BOXES AND FITTINGS-Boxes - For Hazardous Locations	237741
4418-03	CONDUIT FITTINGS-Fittings - For Hazardous Locations	237741

APPENDIX III

Bridgeport products listed by Underwriters Laboratories & CSA comply with the following specifications:

<u>Product Group</u>	<u>UL Standard</u>	<u>CSA Standard</u>	<u>NEMA Standard</u>	<u>Federal Specification</u>
Rigid & IMC Conduit Bodies	UL-514A	C22.2 18.3-04	FB-1	A-A-50563
Rigid & IMC Conduit Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50553
EMT Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50553
Liquid Tight Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50552
Portable Cord Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50552
Flexible Metal & AC/MC Cable Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50552
Non-Metallic Cable Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50552
Grounding Fittings	UL-467	C22.2 18.3-04	FB-1	A-A-50552
Service Entrance Fittings	UL-514B	C22.2 18.3-04	FB-1	A-A-50563

APPENDIX IV

SUMMARY OF CURRENT TECHNICAL STANDARDS MAINTAINED ON FILE BY BRIDGEPORT FITTINGS ENGINEERING DEPARTMENT*:

<u>Governing Body</u>	<u>Standard No.</u>
American National Standards Institute (ANSI)	Z540 NEMA FB 1 ANSI Z1.4-A971
American Society for Testing and Materials (ASTM)	ASTM B86 ASTM B117 ASTM B240 ASTM B633
Canadian Standards Association (CSA)	C22.2 No. 0 C22.2 No.18 C22.2 No. 25 C22.2 No. 30
<u>Governing Body</u>	<u>Standard No.</u>
Underwriters Laboratories, Inc. (UL)	UL 1 UL 3 UL 4 UL 6 UL 62 UL 94V UL 360 UL 467 UL 486A UL 486B UL 514A UL 514B UL 514C UL 651 UL 651A UL 719 UL 746A UL 7468 UL 746C UL 746D UL 797 UL 869 UL 870 UL 886
United States of America Federal Specifications	A-A-50552 A-A-50553 A-A-50563
United States of America Military Specifications	MIL-Q-9858 MIL-I-45208 MIL-STD-45662

* If required, other standards may be obtained as needed.

APPENDIX V

Bridgeport Fittings, Inc. Other Raw Material Specifications

Steel, SAE 1050 Series (Fittings, covers, brackets, straps)

Mechanical Properties	
Tensile Strength, Yield (PSI)	45000-90000
Elongation Ultimate %	0-39
Hardness (Rockwell) (varies by temper)	B55 to B90

Plastic, Polypropylene (Insulating Bushings, Metaliners, Insulators, Lock-A-Liners)

Mechanical Properties	
Tensile Strength, Yield (PSI)	3600-4200
Elongation Ultimate %	3-15
Impact Strength Izod, Notched (Ft.-Lb./In.)	2.2
Hardness	R60-R105

Plastic, Polypropylene, High Density (Liquid Tight Gland Seals and Pull Caps)

Mechanical Properties	
Tensile Strength, Yield (PSI)	3400-3800
Elongation Ultimate %	600-900
Impact Strength Izod, Notched (Ft.-Lb./In.)	1.2-2.0
Hardness	D60-70

Plastic, Polypropylene, Medium Density (Liquid Tight Knockout Gaskets, Anti-Short Bushings)

Mechanical Properties	
Tensile Strength, Yield (PSI)	2000
Elongation Ultimate %	200
Impact Strength Izod, Notched (Ft.-Lb./In.)	----
Hardness	D55

Plastic, Electrical Grade Rigid PVC (Box Extender, device holders)

	Mechanical Properties	ASTM Method
Tensile Strength, PSI	6200	D638
Ultimate Elongation, %	150	D638
Flexural Strength, PSI	11900	D790
Flexural Modulus, PSI	435000	D790
Heat Deflection Temp. (1/8" Un-annealed)	158°F(70°C)	D648



APPENDIX

APPENDIX VI

Bridgeport Fittings, Inc. Casting Alloy Material Specifications

Die Cast Zinc, Alloy #7 (ZAMAK)

Mechanical Properties (as cast)		Physical Properties		Chemical Compositions %	
Tensile Strength, PSI	41000	Melting Point (°F)	728	Al	3.5 - 4.3
Impact Strength - Ft./Lbs. Charpy	40	Density (Lbs./Cu. In.)	.240	Mg	.005 - .020
Brinell Hardness, 500kg 20mm 30 sec	76	Coefficient of Thermal Expansion (uIn./In. x 10 - 6 Deg. F)	15.2	Cu Max.	.25
Elongation in 2", %	14	Specific Conductivity	.10	Fe Max.	.075
Shear Strength, PSI	31000	Thermal Conductivity	.27	Pb Max.	.003
Compressive Strength	60000	(Cal./Sec. Sq.-Cm./Degrees C)		Cd. Max	.002
Mod. of Rupture, PSI	95000	Elec.Conductivity,%Cu Std.	26	Sn Max.	.001
				Ni	.005 - .020
				Zn*	Remainder

*99.99+ % Purity

Note: Zinc base alloy ingot for die casting may contain nickel, chromium, silicon, and manganese in amounts up to their solubility (0.02%, 0.02%, 0.035%, and about 0.5% respectively) at the freezing temperature.

No harmful effects have ever been noted due to the presence of these elements in these concentrations, and therefore analyses are not required for these elements.

Die Cast Zinc, Alloy #3 (ZAMAK)

Mechanical Properties (as cast)		Physical Properties		Chemical Compositions %	
Tensile Strength, PSI	41000	Melting Point (°F)	728	Al	3.5 - 4.3
Impact Strength - Ft./Lbs. Charpy	40	Density (Lbs./Cu. In.)	.240	Mg	.020 - .05
Brinell Hardness, 500kg 20mm 30 sec	76	Coefficient of Thermal Expansion (uIn./In. x 10 - 6 Deg. F)	15.2	Cu Max.	.25
Elongation in 2", %	14	Specific Conductivity	.10	Fe Max.	.10
Shear Strength, PSI	31000	Thermal Conductivity	.27	Pb Max.	.005
Compressive Strength	60000	(Cal./Sec. Sq.-Cm./Degrees C)		Cd. Max	.004
Mod. of Rupture, PSI	95000	Elec.Conductivity,%Cu Std.	26	Sn Max.	.003
				Ni	-
				Zn*	Remainder

*99.99+ % Purity

Note: Zinc base alloy ingot for die casting may contain nickel, chromium, silicon, and manganese in amounts up to their solubility (0.02%, 0.02%, 0.035%, and about 0.5% respectively) at the freezing temperature.

No harmful effects have ever been noted due to the presence of these elements in these concentrations, and therefore analyses are not required for these elements.

Sand Cast Zinc, Alloy ZA-12

Mechanical Properties (as cast)		Physical Properties		Chemical Compositions %	
Tensile Strength, PSI	40000-45000	Melting Point (°F)	710-810	AL	11
Yield Strength .2% Offset, PSI	3000	Density (Lbs./Cu. In.)	.218	MG	.02
Elongation in 2", %	1-3	Electrical Conductivity (% IACS)	25	CU	.75
Brinell Hardness	92-96			ZN	Remainder

Die Cast Aluminum, Alloy 380

Mechanical Properties (as cast)		Physical Properties		Chemical Compositions %	
Tensile Strength, PSI	46000	Solid temperature Range, (°F)	1000-1100	Si	7.5-9.5
Yield Strength, PSI	23000	Density (Lbs./Cu. In.)	.098	Cu	3.0-4.0
Elongation in 2", %	2.5	Electrical Conductivity (% IACS)	23	Mg Max.	0.10
Brinell Hardness	80			Zn Max.	3.0
				Fe Max.	2.0
				Mn Max.	0.50
				Al	Remainder

Sand Cast Malleable Iron, Ferritic

Mechanical Properties (as cast)		Standards	
Min. Tensile Strength, PSI	50000	ASTM Spec. A-47-77	Grade 32510
Min. Yield Strength, PSI	32000	SAE Spec. J158	Grade M3210
Min. Elongation in 2", %	10		
Brinell Hardness	156		

APPENDIX VI (Cont'd)

Sand Cast Ductile Iron

Mechanical Properties (as cast)		Standards	
Min. Tensile Strength, PSI	60000	ASTM A536-80	Grade 5, 60-40-18
Min. Yield Strength, PSI	40000	MIL-I-11466	Class 6
Elongation in 2", %	18		

Sand Cast Yellow Brass

Mechanical Properties (as cast)		Standards
Tensile Strength, PSI	38000	Commercial Grade
Yield Strength, PSI	13000	
Elongation in 2", %	35	

Sand Cast Red Brass (Bronze)

Mechanical Properties (as cast)		Standards
Tensile Strength, PSI	37000	ASTM B-62-52, B-145-52-4A
Yield Strength, PSI	----	MIL-B-16444
Elongation in 2", %	17	SAE 40

APPENDIX VII

UL 797, Recommended Dimensions For EMT Conduit

Trade Size	O.D.		
	Min.	Max.	I.D.
1/2"	.701"	.711"	.622"
3/4"	.917"	.927"	.824"
1"	1.158"	1.168"	1.049"
1-1/4"	1.505"	1.515"	1.380"
1-1/2"	1.735"	1.745"	1.610"
2"	2.192"	2.202"	2.067"
2-1/2"	2.865"	2.885"	2.731"
3"	3.485"	3.515"	3.356"
3-1/2"	3.980"	4.020"	3.834"
4"	4.480"	4.520"	4.334"

UL1, Recommended Dimensions For Flexible Metal Conduit

Trade Size	O.D.		I.D.	
	Min.	Max.	Min.	Max.
3/8"	.560"	.610"	.375"	.393"
1/2"	.860"	.920"	.625"	.645"
3/4"	1.045"	1.105"	.812"	.835"
1"	1.300"	1.380"	1.000"	1.040"
1-1/4"	1.550"	1.630"	1.250"	1.300"
1-1/2"	1.850"	1.950"	1.500"	1.575"
2"	2.350"	2.450"	2.000"	2.080"
2-1/2"	2.860"	3.060"	2.500"	-----
3"	3.360"	3.560"	3.000"	-----
3-1/2"	3.860"	4.060"	3.500"	-----
4"	4.360"	4.560"	4.000"	-----

UL 6, Recommended Dimensions For Rigid Conduit

Trade Size	Threads Per In.	O.D.	
		O.D.	I.D.
1/2"	14	.840"	.622"
3/4"	14	1.050"	.824"
1"	11-1/2	1.315"	1.049"
1-1/4"	11-1/2	1.660"	1.380"
1-1/2"	11-1/2	1.900"	1.610"
2"	11-1/2	2.375"	2.067"
2-1/2"	8	2.875"	2.469"
3"	8	3.500"	3.068"
3-1/2"	8	4.000"	3.548"
4"	8	4.500"	4.026"
5"	8	5.563"	5.047"
6"	8	6.635"	6.065"

UL 360, Recommended Dimensions For Liquid Tight Flexible Steel Conduit

Trade Size	O.D.		I.D.	
	Min.	Max.	Min.	Max.
3/8"	.590"	.710"	.484"	.504"
1/2"	.820"	.840"	.622"	.642"
3/4"	1.030"	1.050"	.820"	.840"
1"	1.290"	1.315"	1.041"	1.066"
1-1/4"	1.630"	1.660"	1.380"	1.410"
1-1/2"	1.865"	1.900"	1.575"	1.600"
2"	2.340"	2.375"	2.020"	2.045"
2-1/2"	2.840"	2.875"	2.480"	2.505"
3"	3.460"	3.500"	3.070"	3.100"
3-1/2"	3.960"	4.000"	3.500"	3.540"
4"	4.460"	4.500"	4.000"	4.040"

OUR DNA IS IN EVERY BOX



Going Green

BFI is committed to minimizing the environmental impact of our operation by proactively managing Conservation, Compliance, and Waste Elimination. Going Green is the responsibility of every BFI employee.

Bridgeport products are distributed by:



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