



CDI Energy Products
Precision. Engineered. Performance.

We are collaborators.

Once we have verified your requirements, we draw upon a diverse team of highly trained experts at every stage of production.

We are innovators.

Building on advanced materials science, we design, engineer, and manufacture high-performance components to very tight tolerances.

We are facilitators.

Partnering with our customers, we solve the most difficult challenges to bring advanced products to market.

We are CDI Energy Products, your global custom-engineering specialists.

With strategic locations around the globe, we provide critical solutions, on time and to your specification, anywhere in the world.

Progress is nothing new to us



1974 Cott Dowall, Inc. founded as a distributor of O-rings, polyseals, and braided packing in a 1750 sq. ft. office/warehouse in Houston, Texas

1979 Awarded our first patent for non-adjustable rod packing

1979 Added a laboratory and began development of proprietary rubber compounds



1980 Developed our own plastics processing operation

1982 Engineering is added as a key customer service

1985 Developed CDI S-Seal design, approved by major wellhead OEMs



1989 CDI Atlas® compounds approved for North Sea applications



1990 High-performance 888 HNBR replaces polyurethane in downhole lip-seal applications

Products and Solutions for the Energy Industry

At CDI Energy Products, we're used to taking on tough challenges. That's precisely why our clients come to us.

"High temperature." "High pressure." "Extremely corrosive." "Hazardous."

To our ears, those are fighting words. As a global solutions company, we specialize in custom elastomeric seals and plastic components for the extremes of the energy industry.

Making your tough jobs easy

CDI Energy Products designs and manufactures products and components for the energy industry—upstream, midstream, and downstream. Applications make high demands on performance, and the best solutions make equally high demands on your systems.

For nearly 40 years, we've provided our clients with innovative, high-performance solutions. Our materials, designs, engineering, and manufacturing ensure a reliable, responsive partner for success.

We are industry leaders of custom manufactured products for specialized applications, and key partners in the development of innovative components and specialized solutions. CDI experts are skilled at collaborating with our clients to research options and produce an optimal solution.

By utilizing a full range of polymer materials—including our own formulations—and the industry's most advanced manufacturing capabilities, we create solutions that yield true value.



Tough Challenges, Tuff Solutions

Packing life was extended nearly 300% for a pressure pumping company in the Marcellus Shale when it changed to Tuff Breed® WSP3 packing. As a result, overall packing costs were significantly reduced, and the risk and non-productive time associated with onsite repacking was eliminated.



1997 Patented SinterMesh® anti-extrusion apparatus made from PTFE-impregnated steel mesh

1998 CDI Seals is purchased by Wellington Holdings, owner of Hallite Seals and Polytek



1999
Develop patented SigmaSeal® for control valves

2005 Wellington Holdings is purchased by Fenner, becomes a part of Fenner Advanced Sealing Technologies

2005 Portfolio of performance thermoplastics earns Norsok M-710 approval



2007 CDI builds new 230,000 sq. ft. facility

2009 Production of high-performance PEEK connectors begins



2011 Manufacturing adds new robotics

2011 Longtime Southeast Asia distributor, Multiseals, was acquired by CDI, furthering a global footprint

Materials science, design, and engineering

CDI customized products and solutions are based on the integration of materials, design, and engineering expertise backed by extensive research and manufacturing capabilities.

Our multidisciplinary project team provides you with a versatile resource for developing unique solutions. Engaged at the concept stage, our teams seek first to understand the full scope of your application and your objectives. From there, we work together with you to ensure responsiveness in pursuit of a common objective.

Material expertise

Materials expertise is what sets CDI Energy Products apart. Our experts stay abreast of the very latest advancements and have in-depth experience with a full range of materials. We develop solutions using our existing proprietary formulations and can design custom blends for your specific application.

To provide the best solution for every application, CDI experts work with a portfolio of materials including:

- NBR
- HNBR
- XNBR
- PA (Nylon)
- FKM (Viton®)
- FFKM
- EPDM, EPDM
- FEPM (Aflas®)
- PFA
- PVDF (Kynar®)
- CTFE
- PEI (Ultem®)
- PI (VespeI®)
- PE, UHMW
- POM (Acetal, Delrin®)
- ETFE (Tefzel®)
- ECTFE (Halar®)
- Polypropylene
- PPS (Ryton®)
- PEEK, PEK, PEKEKK
- PTFE (Teflon®)
- M-PTFE
- FVMQ (Fluorosilicone)
- Filled PTFE
- PF (Phenolics)
- Fluoropolymers
- Patented SinterMesh®
- Engineered Thermoplastics

CDI is highly experienced with a broad scope of advanced materials – from rubber, to advanced fluoropolymers and thermoplastics. In difficult applications requiring multiple materials, our expertise ensures reliable bonding and performance.

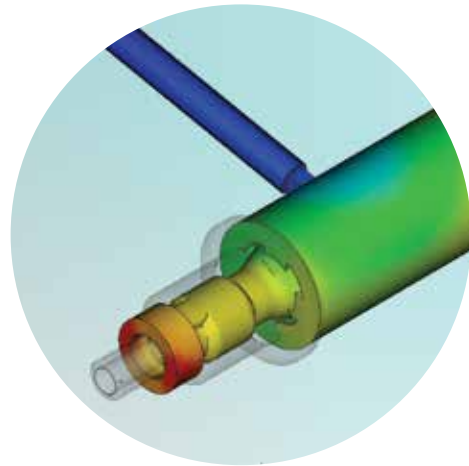
Design and engineering prowess

Every CDI project begins with multidiscipline experts and a robust product laboratory and testing facility near Houston, Texas. Located on the same campus as our US manufacturing center to foster a fully cross-discipline culture, CDI design and engineering is a powerful resource for success.

Our laboratory and testing facilities are instrumental in developing specialized proprietary formulations and ensuring the viability of a product application.

Analytical testing performed by the CDI laboratory includes composition analysis to determine the nature of a sample material. Forensic activities are conducted to determine why materials behave in particular ways.

To further enhance performance, material performance testing is conducted to determine physical wear properties.



Plastic flow simulation is used to validate designs (before costly tooling is built) to identify and correct potential problems early on, saving time, money and resources.



Testing expertise

The CDI laboratory uses a spectrum of plastic and elastomer test methods to ensure material properties meet specifications. Conducted to ASTM standards, these tests include:

Hardness: Durometer testing for control purposes, since no simple relationship exists between hardness and any fundamental physical property.

Tensile properties: Physical properties for tensile strength, ultimate elongation, and modulus (tensile strength at a given elongation).

Deflection temperature: A comparison of the relative behavior of various materials.

Compressive properties: Useful in determining specifications for different grades of materials, and in conjunction with other data to determine overall strength.

Specific gravity: The ratio of the density of a material to the density of a reference substance, generally water. It is used as a quality assurance measurement to assure lot-to-lot consistency.

Tear resistance: A relative measure of a material's resistance to tear.

Compression set: A measure of a material's retention of elastic properties, particularly useful with squeeze type seals.

Immersion testing: Provides insight regarding the effect of a particular media on a specific material.

Heat aging: Used to determine a material's deterioration due to dry heat.

Adhesion: Primarily a quality control test for coating quality and application.

Whether on land or sea, CDI provides the best solutions for your application.



Evaluation and Development

Well conditions continue to grow increasingly extreme as greater depths, higher pressure, intense temperatures, and longer laterals present their own distinct challenges. To survive, products must be robust - requiring a high level of engineering.

Greater redundancy is required for safe and environmentally sound solutions. Unknowns must be removed from the system. Our processes ensure that products are manufactured from the highest grade of materials and are specifically designed for an application. The most appropriate fillers and additives are used to produce reliable, quality products with long lifespans.

For more than 30 years we have worked with the industry to develop the best solutions for surface and subsea applications, including downhole characterization and logging systems.



Completion and Production

To make the most from their assets, operators are using increasingly advanced tools and technology. We help you optimize your products to provide the best performance and the longest operating life.

With high development costs, reducing downtime is critical. Replacing parts reduces productivity and can even shut down production completely. To address this problem, we provide reliable, high-quality products for downhole tools, pressure pumping, and enhanced oil recovery systems and equipment.

Products

- Energized seals
- Connectors
- S-Seals
- PiPackers®
- Opti-V stacks
- Bonded seals
- Cement plugs
- Well service packing
- Valve seats
- Ram blocks
- Stem seals



Reliable, quality products for transportation and refining systems and equipment.



Transportation & Refining

With growing concern and government regulations, fugitive emissions have become a key issue. In addition, companies are working with more hazardous materials. Doing more with less has driven new levels of automation and technology into the industry. Now it is critical that products have long life-spans and address the challenges of corrosion, high pressures, and environmental concerns.

CDI understands your constraints and what they mean to your operation. We build precision and reliability into every component that bears our brand. Because we specifically design our seals and components for the application, we provide a high degree of design integrity for components used in a diverse set of applications, including valves, compressors, and pigging systems.

Products

- Seals
- Bearings
- Valve seats
- Stem packing
- Custom shapes



Manufacturing

The level of precision performance we deliver doesn't just happen. Every customized product and solution benefits from CDI's extensive machining and molding capabilities.

Our highly skilled manufacturing specialists and programmers precisely transform advanced materials and designs into the finished product. CDI uses sophisticated CNC machining equipment that enhances manufacturing flexibility, versatility, and statistical process control for greater efficiency and quality.

With manufacturing facilities in the US, Singapore, Germany, Brazil, and the UK, our manufacturing operations entail more than 30 different molding and manufacturing processes, including:

- Bonding
 - Rubber-Metal
 - Rubber-Plastic
 - Rubber-Rubber
- Calendring
- Composite Fabrication
- Compression Molding
 - Rubber
 - PTFE
 - Advanced Thermoplastics
- Custom Compounding
- Custom Tooling and Machine Designs
- Extrusion
 - Melt
 - Paste
 - Ram
- Injection Molding
- Isostatic Molding
- Machining
 - Manual
 - CNC
 - Screw
 - Rubber



Superior materials,
precisely transformed for
ultimate performance.

Quality Assurance

CDI addresses quality at every step in the process, from concept to completion. Our investment in state-of-the-art manufacturing technology, from robotics to cleanrooms, ensures the highest level of precision.

The highest quality is ensured through adherence to the ISO 9001:2010 standard and through detailed contract review, well defined and repeatable processes, and statistically based inspection plans.

Quality also involves product delivery. CDI excels at developing precise solutions and delivering them on short lead times. To meet client schedules without interruption, we track performance at each stage in the manufacturing process through delivery of the final product.

Health, Safety, Environment (HSE)

At CDI, health, safety, and the environment are of the utmost importance. Our first priority is to ensure our employees go home the same way they came to work.

Creating an environment and culture of safety first benefits our customers by allowing us to recruit and retain the best of the best. Our ISO 14001 and OHSAS 18001 management systems help us continuously improve on all elements of HSE while ensuring regulatory compliance.

We value HSE for the same reasons you do. We care about our people, customers, and corporate responsibility.





To learn how CDI Energy Products can improve performance in your operations, please visit our website at: CDIproducts.com.

Or talk with our experts at your regional office.

In-depth Solutions

CDI Energy Products is a designer and manufacturer of custom plastic and elastomeric products, seals, and ancillary metal components. As part of the global group Fenner, our multiple locations enable us to partner with clients worldwide to produce unique, high-performance solutions for the energy industry.



Disclaimer: The descriptions, design and performance information, and recommended uses for the products described herein are based on our design and manufacturing experience, product testing in specific conditions, and industry standards. As such, this information is for general guidance only. Our products are accompanied with their own warranty which is given in writing at the time of sale.

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