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SEALING SOLUTIONS FOR  
**Data Centers**



We Succeed  
When you  
Succeed.



# Our Vision

Evolution isn't a choice in today's business landscape, it's the only way to succeed.

Progress relies on everything moving forward; from people to machinery to production. Everything must flow.

As we engineer our way to a better world, we are breaking down barriers, making sure each process is in place, always reflecting and improving. We are experts at delivering the best sealing solutions to help our customers unlock their highest potential.

Our global community of industry leading specialists drive our innovative production and materials to consistently raise the bar.

Whether through the stress of everyday use, or specialized applications and high-temperature environments, liquid or gas, our products deliver sustainable integrity.

At Durlon, we succeed when you succeed.



# Sealing Solutions for Data Centers

## Supporting the Infrastructure Behind the Digital World

Every email sent, video streamed, file stored in the cloud, and online transaction completed depends on a physical network of facilities known as data centers. These buildings house rows of servers, electrical infrastructure, mechanical cooling systems, and monitoring equipment that work continuously to keep digital information available, secure, and moving.

Although data centers may look like commercial buildings from the outside, their operating demands are very different. Servers run twenty-four hours a day, every day of the year. This constant operation consumes large amounts of electricity, and nearly all of that energy is ultimately converted into heat. As a result, data centers are not only IT facilities; they are high-performance energy conversion environments where power, heat, and reliability must be managed without interruption.

## Critical Operating Requirements

Data centers must solve three essential challenges:

### Continuous Power

Servers cannot shut down unexpectedly. Even brief power interruptions can lead to data loss, service disruption, or outages affecting thousands or millions of users. Data centers rely on robust electrical infrastructure, backup power

systems, switchgear, and power distribution equipment to keep systems energized.

### Continuous Cooling

Because servers generate heat constantly, cooling systems must operate continuously. Data center cooling is not designed for comfort; it is required for equipment protection and survival. Chillers, cooling towers, pumps, air handling units, and rack-level cooling equipment help maintain safe operating temperatures.

### Continuous Operation

Data centers are built for uptime. Maintenance, repairs, and equipment failures must be managed without shutting down the facility. This need for reliability drives the use of redundancy across mechanical, electrical, and control systems.

## Where Durlon Fits

Data centers depend on mechanical and electrical infrastructure that must perform reliably under demanding, continuous-duty conditions. Sealing products used in cooling loops, pumps, piping systems, heat exchangers, backup power systems, and supporting utilities must help maintain system integrity and reduce the risk of leaks, downtime, and unplanned maintenance.

Durlon sealing solutions support the reliability requirements of data center infrastructure

by helping critical systems operate safely, efficiently, and continuously.

Data centers are built on uptime, efficiency, and reliability. Behind every rack, server, and electrical system is a network of critical support equipment that must perform without interruption. Cooling loops, backup power systems, water treatment, fire suppression, HVAC equipment, and facility piping all depend on secure, dependable sealing solutions.

A simple analogy: a data center is like a factory for computing. Instead of making physical products, it processes information and delivers digital services.

At Durlon®, we understand that sealing performance is part of operational continuity. Our products are designed to support the systems that keep data centers running safely, efficiently, and reliably.

Data centers rely on mechanical and utility systems that operate continuously to protect IT equipment, maintain environmental conditions, and provide emergency backup when needed. Gaskets are used throughout these systems to help prevent leaks, reduce maintenance requirements, and support safe operation.

Typical data center systems include:

#### **Cooling Systems**

Chillers, cooling towers, pumps, heat exchangers, HVAC units, piping loops, and glycol-based cooling systems all require dependable sealing solutions.

These systems may involve water, glycols, corrosion inhibitors, and biocides.

#### **Backup Power Systems**

Generator exhaust, fuel delivery, coolant loops, and lubrication systems support business

continuity during utility power interruptions. Gaskets used in these areas may encounter diesel, oils, coolants, elevated temperatures, and vibration.

#### **Water Treatment Systems**

Reverse osmosis, filtration, chemical dosing, and treatment skids help support cooling water quality and system efficiency.

Sealing materials must be selected with consideration for water chemistry, treatment chemicals, and service conditions.

#### **Fire Suppression Systems**

Data centers may use fire suppression system piping for agents such as NOVEC™ or FM-200™, as well as water-based systems depending on the facility design.

These systems require sealing solutions that support reliability when safety systems are called into service.

#### **General Facility Piping**

Air, water, drainage, utility, and support piping throughout the facility all require practical, reliable gasket solutions for day-to-day operation and maintenance.

A data center is a building or dedicated space that houses lots of computer servers and networking equipment used to store, process, and deliver digital information.

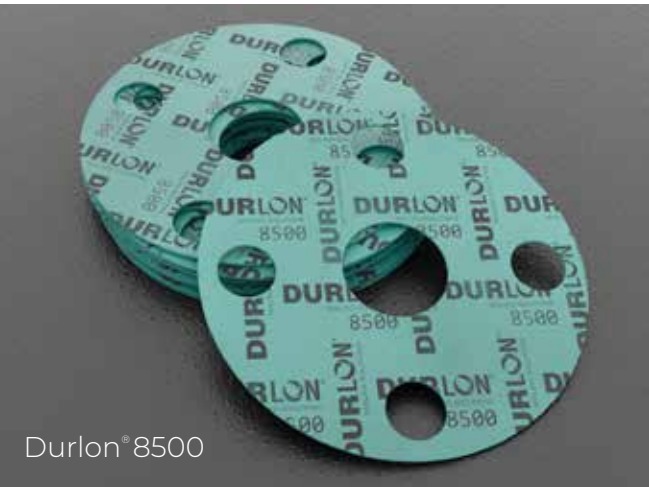
#### **Reliability Matters**

In data centers, uptime is essential. Every system that supports power, cooling, and operation must be dependable. Durlon products help support these mission-critical environments where sealing performance contributes to safety, efficiency, and continuous operation.

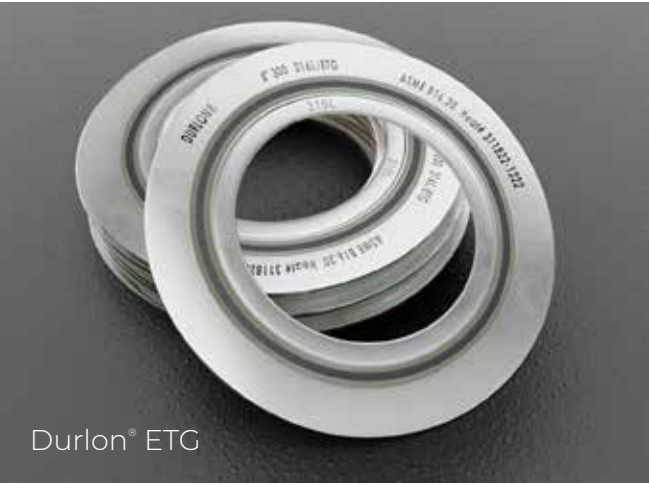
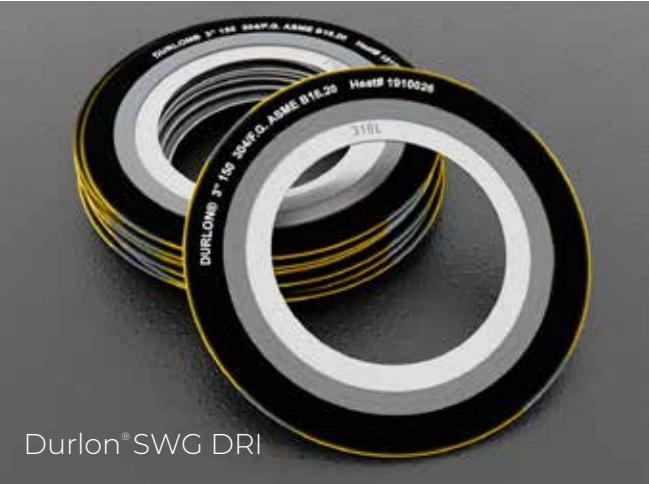
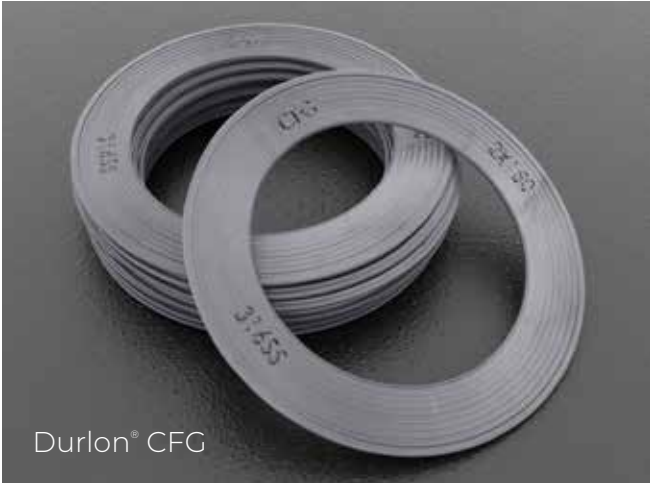


Innovative products  
**Unparalleled service**

# Durlon® Product Recommendations



# Durlon® Product Recommendations



# Physical Properties & Certifications

| Physical Properties                           | 7910                                            | 8400                                            | 8500                                            | 9000                                              | 9200                                              | 9600                                              | CFG                                                   | Durtec®                                                 |
|-----------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|
| Composition                                   | Aramid<br>-Inorganic<br>NBR                     | Phenolic<br>NBR                                 | Aramid<br>-Inorganic<br>NBR                     | Inorganic<br>Filler /<br>Pure PTFE<br>Resins      | Barium<br>Sulfate Filler<br>/ Pure PTFE<br>Resins | 100% Pure<br>Expanded<br>PTFE                     | Corrugated<br>Flexible<br>Graphite                    | Specially<br>Engineered<br>Metal Core<br>Technology     |
| Color                                         | White                                           | Gold                                            | Green                                           | Blue                                              | Off White                                         | White                                             | -                                                     | -                                                       |
| Temperature:<br>Min<br>Max<br>Continuous, Max | -40°C (-40°F)<br>371°C (700°F)<br>260°C (500°F) | -40°C (-40°F)<br>427°C (800°F)<br>290°C (554°F) | -40°C (-40°F)<br>371°C (700°F)<br>287°C (548°F) | -212°C (-350°F)<br>271°C (520°F)<br>260°C (500°F) | -268°C (-450°F)<br>260°C (500°F)<br>-             | -268°C (-450°F)<br>316°C (600°F)<br>260°C (500°F) | -200°C (-328°F)<br>650°C (1,200°F)<br>550°C (1,022°F) | -200°C (-328°F)<br>1,000°C (1,832°F)<br>650°C (1,200°F) |
| Pressure, max,<br>bar (psi)                   | 83 (1,200)                                      | 103 (1,500)                                     | 103 (1,500)                                     | 103 (1,500)                                       | 83 (1,203)                                        | 200 (2,900)                                       | 207 (3,000)                                           | 430.9 (6,250)                                           |
| Density, g/cc (lbs/ft³)                       | 1.7 (106)                                       | 1.7 (106)                                       | 1.7 (106)                                       | 2.2 (138)                                         | -                                                 | 0.9 (56.2)                                        | -                                                     | -                                                       |
| Compressibility, %                            | 9-19                                            | 8-16                                            | 8-16                                            | 8-16                                              | 4-10                                              | 50-60                                             | -                                                     | -                                                       |
| Recovery, %                                   | 40                                              | 50                                              | 50                                              | 40                                                | 40                                                | >10                                               | -                                                     | -                                                       |
| Creep Relaxation, %                           | 25                                              | 25                                              | 20                                              | 30                                                | 15                                                | 22                                                | -                                                     | -                                                       |
| Tensile Strength,<br>MPa (psi)                | 11 (1,600)                                      | 12.4 (1,800)                                    | 13.8 (2,000)                                    | 13.8 (2,000)                                      | 14 (2,030)                                        | 20 (2,800)                                        | -                                                     | -                                                       |
| Sealability<br>ASTM 2378<br>(Nitrogen)        | 0.05 cc/min                                     | 0.03 cc/min                                     | 0.03 cc/min                                     | 0.01 cc/min                                       | -                                                 | -                                                 | -                                                     | -                                                       |

Please refer to <https://www.durlon.com/products/> for all Durlon Product Physical Properties

| Style   | Certifications                                                                                                                                                                                                                                                                                                                  |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7910    | Certified to meet requirement of NSF/ANSI 61 for potable water application at 23°C (73°F) to commercial hot to 82°C (180°F), RoHS Reach Declaration compliant.                                                                                                                                                                  |
| 8400    | California Proposition 65, RoHS Reach Declaration.                                                                                                                                                                                                                                                                              |
| 8500    | California Proposition 65 and RoHS Reach Declaration compliant, API 6FB Fire Test with avg. temperature >650°C, 30 minutes, 40 bar, 1 ml (inch/min.) max allowable leakage, Conforms to the FDA requirements of 21 CFR 177.2600, ABS Tier2 - PDA Issued.                                                                        |
| 9000    | Passed API 6FA, 3rd Edition Fire Test, Met requirements of 121°C (250°F) for USP for Plastic Class VI, Conforms to required 21 CFR 177.1550 for FDA, TA-luft (VDI Guideline 2440) approved material, ABS-PDA & Pamphlet 95 approved material - chlorine institute, (EC) 1935/2004 & EU (10/2011) approved material.             |
| 9002    | Conforms to FDA requirements of 21 CFR 177.1550 for food and drug contact. Approved for BAM Oxygen Service: Gaseous & Liquid (Test Report) Up to 260°C (500°F) at 52 bar (754 psi). LOX Mechanical Impact (ASTM G86 & ISO 21010) Zero reactions out of 20 at a test reaction frequency of 0%. RoHS Reach Declaration compliant. |
| 9200    | TA-luft (VDI Guideline 2440), API Standard 6FB Fire Test- 6 inch Class 300 SWG FG                                                                                                                                                                                                                                               |
| 9600    | Conforms to FDA requirements of 21 CFR 177.1550 for food and drug contact. Met requirements for USP for Plastic Class VI - 121°C (250°F), and compliant with RoHS Reach Declaration. Approved material for ABS-PDA. RoHS Reach Declaration compliant.                                                                           |
| CFG     | RoHS Reach Declaration compliant, API 6FB Fire Test                                                                                                                                                                                                                                                                             |
| SWG     | TA-luft (VDI Guideline 2440), API Standard 6FB Fire Test- 6 inch Class 300 SWG FG                                                                                                                                                                                                                                               |
| Durtec® | Passed modified API 607 fire test and meets the requirements of Shell Specification MESC SPE 85/203 & PVRC SCR Flexible Graphite Specification for FG 600 material, RoHS Reach Declaration compliant.                                                                                                                           |
| ETG     | API 6FB, Fourth Edition 2019, Type 1 (Onshore Test), API 6FB, Fourth Edition 2019, Type 2 (Offshore Test), API 607, 4th edition Fire Test with Exxon modifications.                                                                                                                                                             |
| HT1000® | API 607, 4th edition Fire Test with Exxon modifications.                                                                                                                                                                                                                                                                        |

**Note:** ASTM properties are based on 1/16" sheet thickness, except ASTM F38 which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties, but should not be used to establish specifications limits nor used alone as the basis of design. For applications above Class 300, contact our technical department.

**Warning:** Durlon® gasket materials should never be recommended when both temperature and pressure are at the maximum listed. Properties and applications stated are typical. No applications should be undertaken by anyone without independent study and evaluation for suitability. Never use more than one gasket in one flange joint and never reuse a gasket. Improper use or gasket selection could cause property damage and/or serious injury. Data reported is a compilation of field testing, field service reports and/or in-house testing. While the utmost care has gone into publishing the information contained herein, we assume no responsibility for errors. Specifications and information contained within are subject to change without notice. This edition cancels and obsoletes all previous editions.

# Data Center Process Flow Diagram

## 2 Cooling Plant

Chiller nozzles, heat exchanger flanges, pump suction/discharge flanges, valve bodies, strainers, cooling tower piping

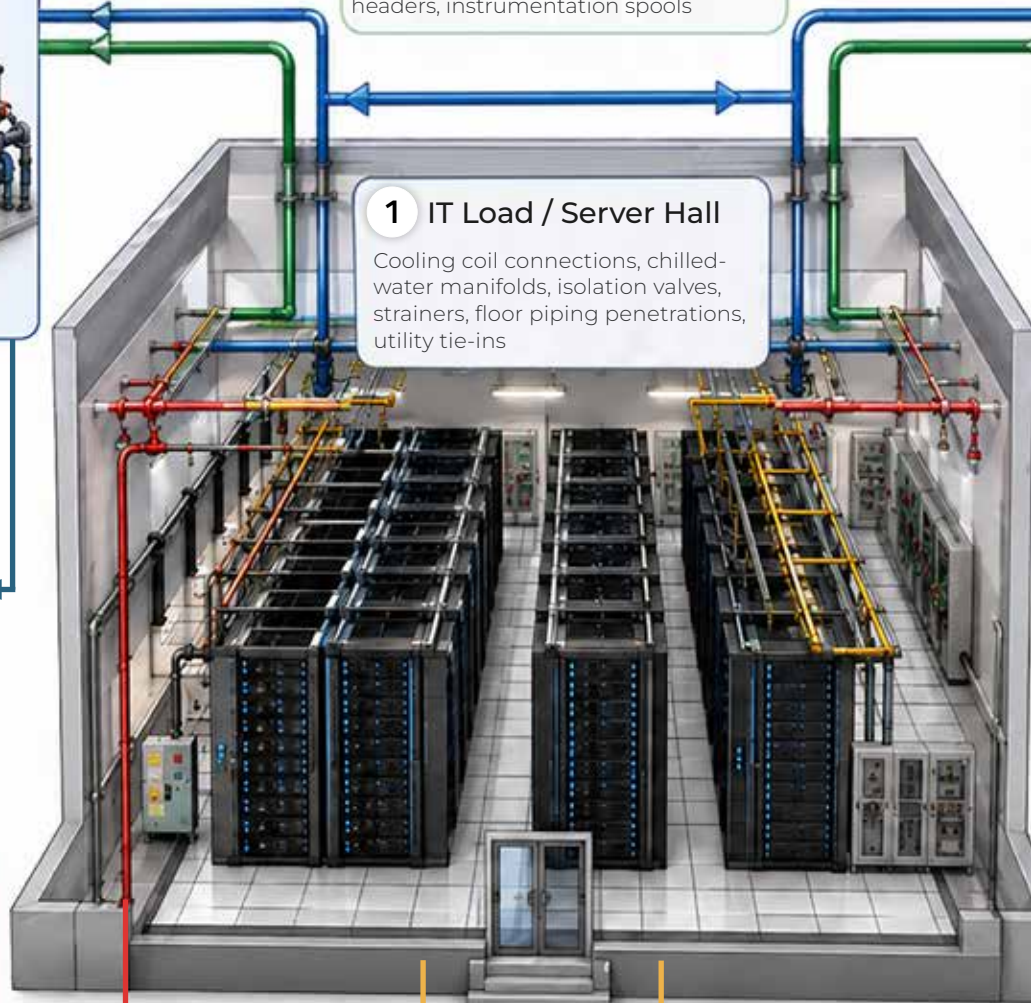


## 3 Closed Cooling Loop

Treated water/glycol loop flanges, pump connections, plate-and-frame heat exchanger ports, valve flanges, bypass headers, instrumentation spools

## 1 IT Load / Server Hall

Cooling coil connections, chilled-water manifolds, isolation valves, strainers, floor piping penetrations, utility tie-ins



## 4 Water Treatment Skid

RO skid piping, filter housings, chemical dosing connections, tank nozzles, metering pump connections, chemical feed lines



## 7 Fire Suppression System

Agent cylinder manifold flanges, distribution piping flanges, valve assemblies, discharge headers, pressure switch/test connections



## 8 General Facility Piping

Domestic water, process water, compressed air, drainage, utility headers, mechanical room valves, pumps, strainers, flanged fittings



**NOTE:** This is a graphical representation of a typical data center, showing the primary process flow path. It does not show the minor details of the process, rather it focuses on the equipment used, and other instruments that are present. It helps to illustrate how the major components of this type of process plant interacts with each other to bring about the desired effect.

## 5 Backup Generator System

Coolant piping flanges, lube oil service connections, jacket-water heat exchanger flanges, exhaust system joints, turbo/exhaust transitions



## 6 Fuel Storage & Transfer

Diesel storage tank nozzles, day tank flanges, transfer pump flanges, fuel filter housings, fuel piping valves and unions



## Work Flow Process

Durlon gaskets would mainly be used at flanged, bolted, or removable mechanical joints in the illustrated data center systems. These joints include piping, pumps, valves, tanks, skids, heat exchangers, generators, and suppression equipment, where a reliable seal is required.

Durlon® iGuard™ flange isolation kits are applicable where the project requires electrical isolation or mitigation of galvanic corrosion at flanged joints. Durlon iGuard kits are designed to prevent metallic contact between flanges and include an isolation gasket, sleeves, and washers; available gasket/carrier options include Durlon® 8400, 8500, and 9000.

## Recommended Durlon® Product List:

- 1 **8500** for chilled-water and glycol loop flanges. **iGuard™ 8500** or **iGuard™ 9000** where dielectric isolation is needed. **7910** for potable/domestic-water tie-ins.
- 2 **8500/8700** for standard chiller, condenser-water, pump, valve, and strainer flanges. **CFG**, **SWG DRI graphite**, or **Durtec®** for chiller nozzles, heat exchangers, high-bolt-load joints, large flanges, thermal cycling, vibration, or pressure spikes. **9000/9200/9600** where cooling-tower chemicals, biocides, chlorination, or aggressive treatment chemicals are present.
- 3 **8500** for treated water/glycol flanges, pump connections, bypass headers, valve flanges, and instrumentation spools. **9000** where corrosion inhibitors or treatment chemistry are more aggressive. **CFG/Durtec®** for heat-exchanger flange connections with cycling or vibration.
- 4 **9000** as the general chemical-service gasket. **9200** for more aggressive caustic/chlorine-type chemical dosing. **9600** for irregular, FRP/PVC, glass-lined, or low-bolt-load flanges. **7910** for certified potable-water service where NSF/ANSI 61 is required.
- 5 **8500** for coolant and jacket-water flanges. **8500/CFG** for lube-oil service. **CFG**, **Durtec®**, or **SWG DRI graphite** for jacket-water heat-exchanger flanges and higher-load/vibration joints. **HT1000**, **ETG SWG**, or **Durtec® ETG** for exhaust joints, turbo/exhaust transitions, and very high-temperature flanges.
- 6 **8500** for standard diesel tank nozzles, day-tank flanges, transfer pumps, fuel-filter housings, valves, and unions. **CFG/SWG DRI graphite** for fire-safe, higher-pressure, large-diameter, or vibration-prone joints. **9000/9600** for biodiesel blends above B15 or uncertain fuel additives.
- 7 **9000** for clean-agent, CO<sub>2</sub>, inert-gas, and critical low-leak service. **9002** where oxygen-cleaned or oxygen-service requirements apply. **SWG DRI PTFE/SWG DRI graphite** for high-pressure discharge headers/manifold flanges, depending on the agent and fire-temperature exposure.
- 8 **8500** as the general-purpose facility gasket for process water, compressed air, utility headers, mechanical-room pumps/valves/strainers, and non-aggressive drainage. **7910** for potable domestic water. **9000/9200/9600** for chemical drains or aggressive process water. **CFG/SWG/Durtec®** where pressure, temperature, cycling, vibration, or blowout resistance drives the design.



The core of the Durlon® brand is to provide fluid sealing solutions that make sense, both financially and strategically. We accomplish this through process-oriented design, sector-specific knowledge, and extensive testing.

For data centers, sealing reliability supports more than piping performance. It helps protect uptime,

equipment integrity, operational safety, and long-term facility efficiency.

At Durlon, we offer specially developed sealing solutions tailored directly to your specific needs.

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SEALING SOLUTIONS

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