DURLON®
SEALING SOLUTIONS

www.durlon.com
info@durlon.com

SEALING SOLUTIONS FOR

Water & Wastewater Industry

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.

DURLON®
SEALING SOLUTIONS

Sealing Solutions for **Water and Wastewater**

The water and wastewater industry is a critical component of many other industries and plays a vital role in ensuring the smooth operation of the various sectors. Many industries generate wastewater as a by-product of their flow processes, and in turn, use treated water. Here are some examples:

Agriculture: The agricultural industry generates wastewater from various activities such as irrigation, animal husbandry, and food processing. Irrigation runoff and agricultural discharges can contain nutrients, pesticides, and sediment that can adversely affect water quality. Additionally, wastewater generated from animal husbandry operations, such as dairy farms and feed-lots, can contain high levels of organic matter and nutrients. Treated wastewater can be used for irrigation in agriculture, and is particularly beneficial in areas with limited freshwater resources or during drought conditions.

General Manufacturing: Many manufacturing processes require large quantities of water for cooling, cleaning, and process control. Treated water can be used in place of freshwater for these purposes, reducing the demand for natural resources.

Pulp and Paper: The pulp and paper industry uses treated water for pulp processing and wastewater treatment. Treated water can be used for these processes and for non-potable uses such as cooling towers and boilers.

Wastewater is mainly generated through processes that typically involve the use of large quantities of water to transport, separate, and process the raw materials.

During these processes, the water becomes contaminated with various substances of organic and inorganic compounds. These contaminants can also include chemicals used in the production process, such as bleaching, dyes, and sizing agents.

Metal Fabrication: The steel industry uses treated water for cooling and process control, as well as for the de-scaling of steel surfaces.

Chemical and Pharmaceutical: The chemical and pharmaceutical industries generate wastewater from manufacturing processes that use large quantities of water for cooling, cleaning, and processing.

Food and Beverage: The food and beverage industry generates wastewater from cleaning, food processing, and cooking operations. Treated water can be used in the manufacturing process for cleaning and sanitation, as well as for cooking and brewing.

Power Generation: The power generation industry generates wastewater from various activities, including cooling water discharge, flue gas desulfurization, and ash handling. Cooling water discharge is one of the largest sources of wastewater from power plants,

as large amounts of water are required to cool the turbines and other equipment. Flue gas desulfurization generates wastewater containing contaminants such as sulfur, calcium, and heavy metals, while ash handling generates wastewater with high levels of dissolved solids and metals.

Oil and Gas: The oil and gas industry generates wastewater from drilling, hydraulic fracturing, and refining operations. Treated water can be used for hydraulic fracturing, cooling, and processing operations, as well as for dust suppression and irrigation.

Mining: The mining industry generates wastewater from extraction, processing, and transportation activities. Treated water may used for dust suppression, ore processing, and mineral separation.

Overall, the use of treated water in various industries can help reduce freshwater demand and promote sustainability. However, the generation of wastewater from these industries highlights the importance of proper wastewater management and treatment to protect public health and the environment.

Innovative products
Unparalleled service

Water and wastewater treatment are a critical part of our everyday lives that are often taken for granted. At Durlon®, we take this seriously. Water needs to be cleaned and treated before it makes its way through piping systems and eventually into peoples' homes or disposed of so that it causes no detrimental impact to the environment. Whether it is disposed into the natural environment or in sewage networks, the chemical and physical properties of the wastewater need to comply with current regulations.

From water production to wastewater treatment, Durlon® delivers safe, durable, and easy-to-maintain sealing solutions that recognize the critical importance of regulatory requirements. We are experienced in supplying sealing solutions for this complex market's many application scenarios; to help eliminate water flush, excessive movement, erosion, and corrosion risks posed by thick sludge, chlorinated water, and other common industrial materials.

Durlon® 7910 - Compressed Sheet Gasket Material

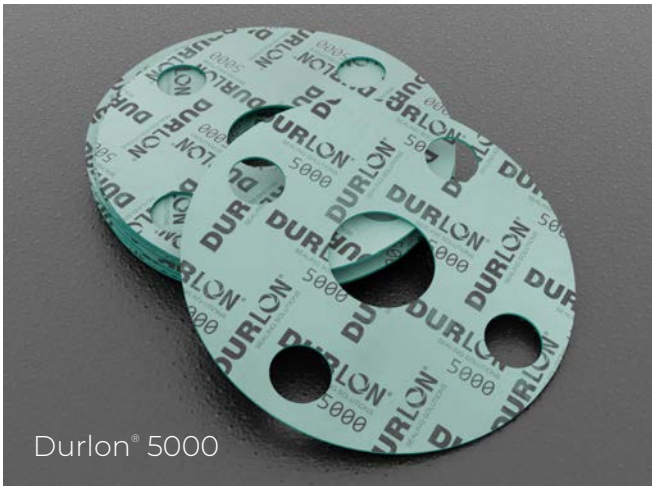
As a quality, commercial grade compressed sheet gasket material, Durlon® 7910 was specifically developed to meet the requirement of NSF/ANSI 61 (Certification for water treatment products that are manufactured, distributed or sold in North America) for potable water application 23°C (73°F) to commercial hot 82°C (180°F).

NSF Certified: NSF International is a global independent organization that writes standards and protocols, and tests and certifies products for the food, water and consumer goods industries to minimize adverse health effects and protect the environment. www.nsf.org

Physical Properties	
Color	White
Fiber System	Aramid/Inorganic
Binder	NBR
Temperature: Min Max Continuous, Max	 -73°C (-100°F) 371°C (700°F) 260°C (500°F)
Pressure, Max, bar (psi)	83 (1,200)
Density, g/cc (lbs/ft^3)	1.7 (106)
Compressibility, %	9-19
Recovery, %	40
Creep Relaxation, %	25

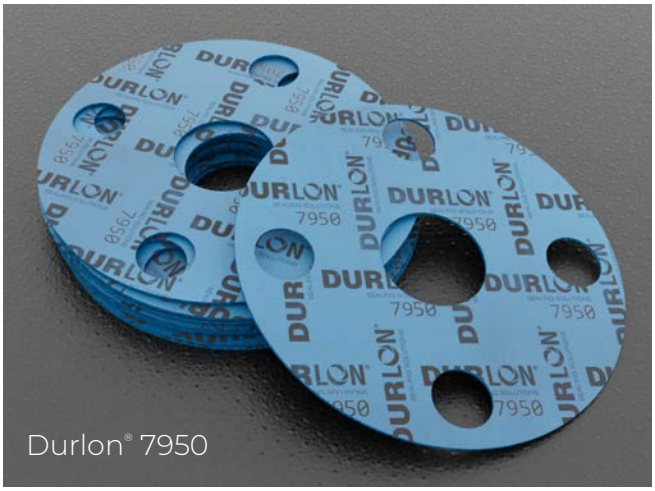
Tensile Strength, MPa (psi)	11 (1,600)
Nitrogen Sealability ASTM 2378, cc/min	 0.05
Fluid Resistance, ASTM F146 IRM 903 Oil 5hrs at 300°F Thickness Increase, % Weight Increase, % ASTM Fuel B 5hrs at 70°F Thickness Increase, % Weight Increase, %	 0-15 15 0-10 12
Flexibility, ASTM F147	10x
Dielectric Breakdown ASTM D149, kV/mm (V/mil)	 11.0 (279)

Durlon® Product Recommendations

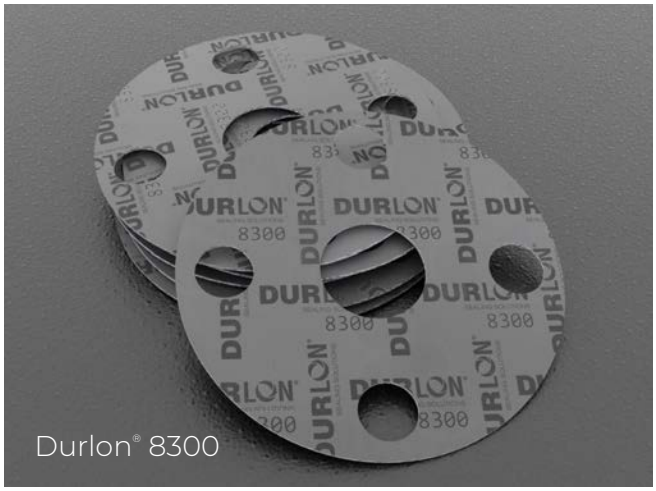


Durlon® 5000

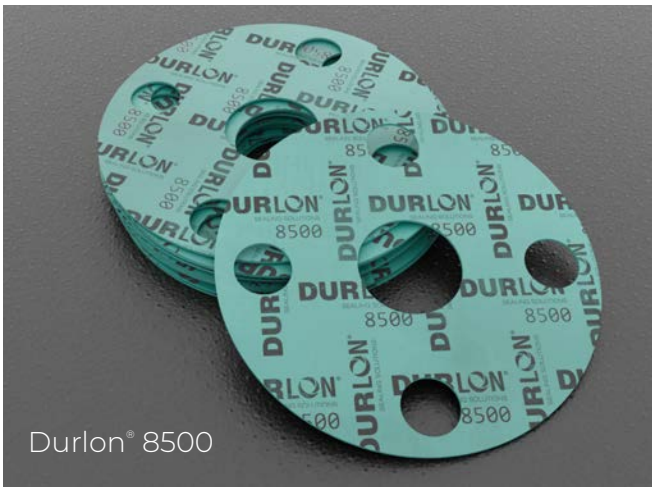
Durlon® 7910



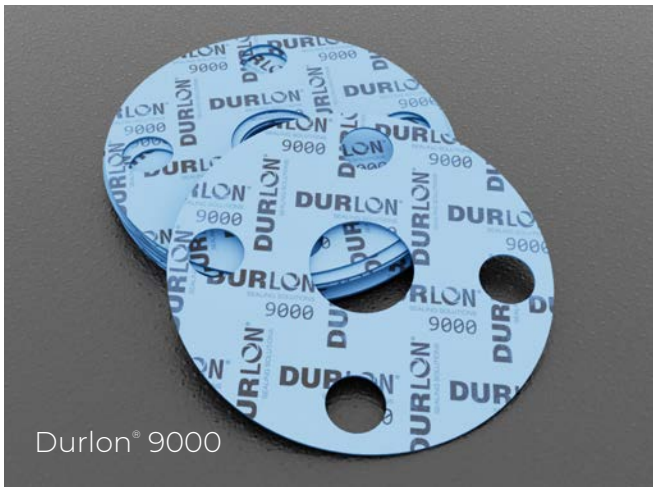
Durlon® 7950



Durlon® 8300



Durlon® 8500



Durlon® 9000

Physical Properties & Certifications

Physical Properties	5000	7910	7950	8300	8500	9000
Composition	Mineral Fiber NBR	Aramid -Inorganic NBR	Aramid -Inorganic NBR	Carbon NBR	Aramid -Inorganic NBR	Inorganic Filler / Pure PTFE Resins
Color	Light Green	White	Blue	Black	Green	Blue
Temperature: Min Max Continuous, Max	 -73°C (-100°F) 288°C (550°F) 232°C (450°F)	 -73°C (-100°F) 371°C (700°F) 260°C (500°F)	 -73°C (-100°F) 371°C (700°F) 260°C (500°F)	 -73°C (-100°F) 482°C (900°F) 343°C (650°F)	 -73°C (-100°F) 371°C (700°F) 287°C (548°F)	 -212°C (-350°F) 271°C (520°F) 260°C (500°F)
Pressure, max, bar (psi)	69 (1,000)	83 (1,200)	83 (1,200)	139 (2,000)	103 (1,500)	103 (1,500)
Density, g/cc (lbs/ft^3)	1.7 (106)	1.7 (106)	1.7 (106)	1.6 (100)	1.7 (106)	2.2 (138)
Compressibility, %	7-17	9-19	7-17	8-16	8-16	8-16
Recovery, %	40	40	≥40	50	50	40
Creep Relaxation, %	25	25	20	18	20	30
Tensile Strength, MPa (psi)	10.3 (1,500)	11 (1,600)	11 (1,600)	12.4 (1,800)	13.8 (2,000)	13.8 (2,000)
Sealability ASTM 2378 (Nitrogen)	0.05 cc/min	0.05 cc/min	0.05 cc/min	0.05 cc/min	0.03 cc/min	0.01 cc/min

Durlon® 7910 - NSF Certified: NSF International is a global independent organization that writes standards and protocols, and tests and certifies products for the food, water and consumer goods industries to minimize adverse health effects and protect the environment. www.nsf.org

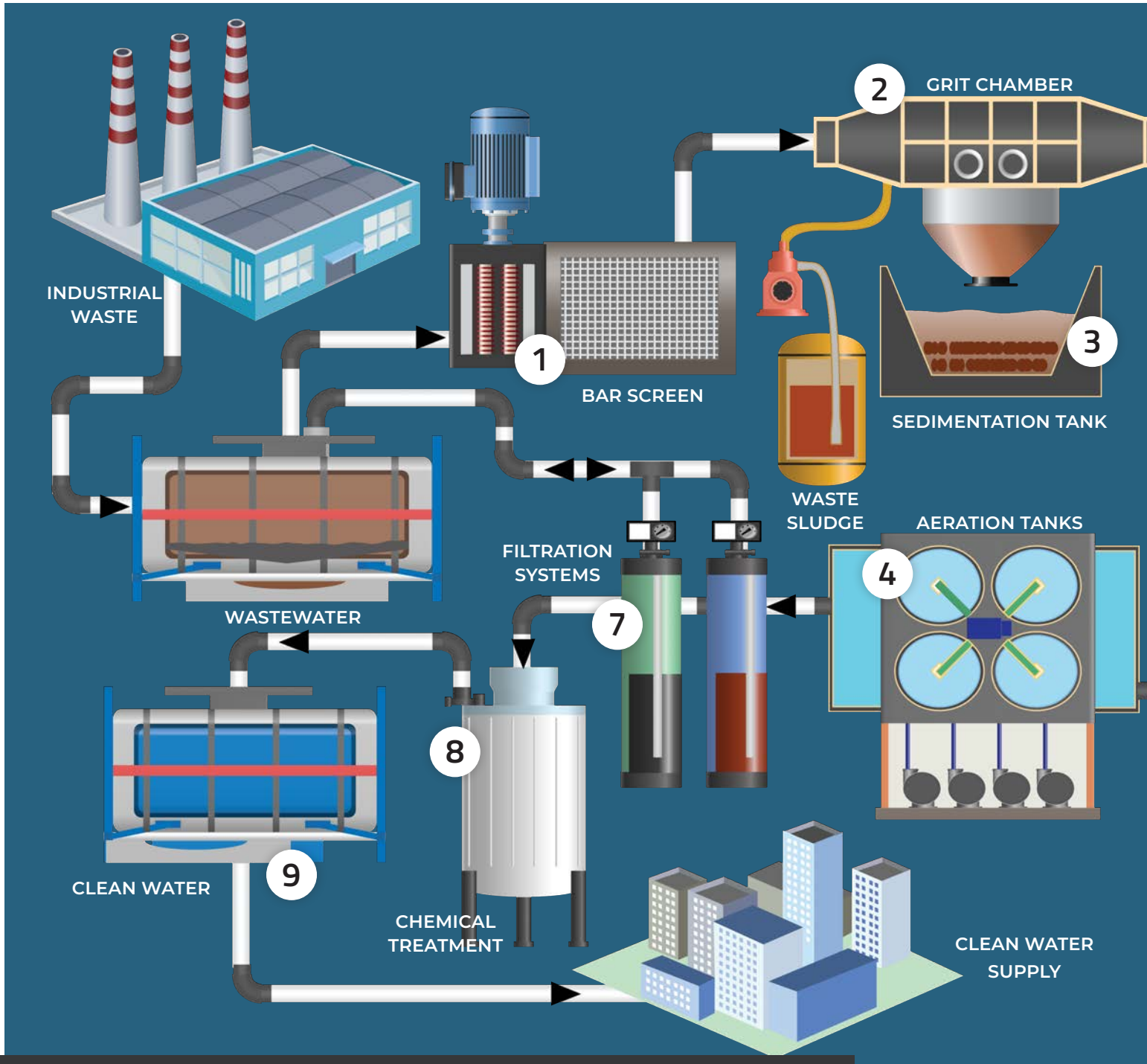
Style	Certifications
5000	RoHS Reach Declaration.
7910	Certified to meet requirement of NSF/ANSI 61 for potable water application at 23°C (73°F) to commercial hot to 82°C (180°F), RoHS Reach Declaration.
7950	California Proposition 65, RoHS Reach Declaration.
8300	California Proposition 65, RoHS Reach Declaration.
8500	California Proposition 65, RoHS Reach Declaration, 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.
9000	RoHS Reach Declaration, ANSI/API 607 Fire Test 6th edition, Zero leakage (The test fixture was subjected to an external flame of 875°C (1607°F) average for 30 minutes. The measured leakage was 1.8 ml/min, where the max allowable limit is 1200ml/sec.), Approved material for WRAS (Water Regulations Advisory Scheme), USP Class VI 121°C (250°F) for 30 min., TA-luft (VDI Guideline 2440), ABS-PDA & Pamphlet 95, the chlorine institute, DNV-GL, (EC) 1935/2004 & EU (10/2011), and conforms to FDA requirements of 21 CFR 177.1550 for food and drug contact.

Durlon® 9000 is made with Teflon™ fluoropolymer. Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Triangle Fluid Controls Ltd.

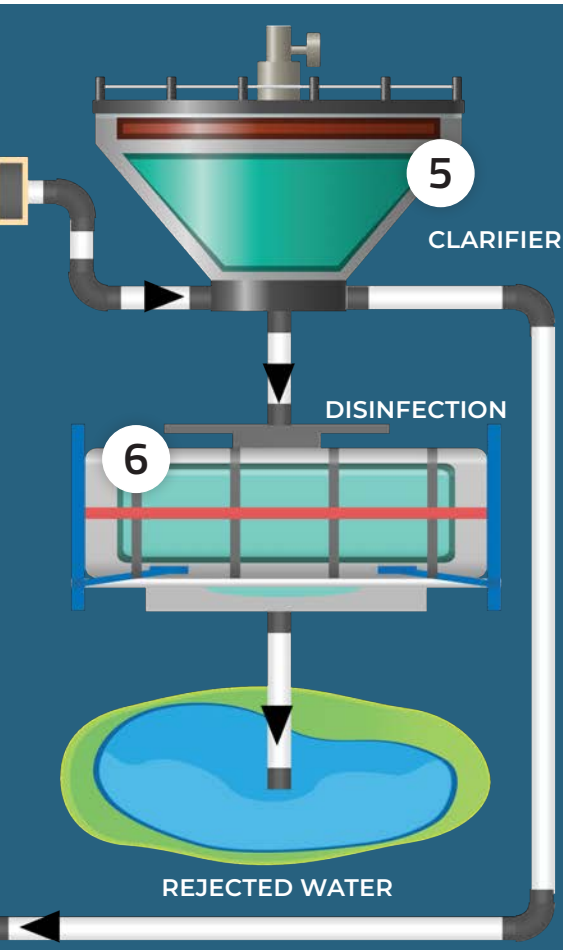
Note: ASTM properties are based on 1/16" sheet thickness, except ASTM F38 which is based on 1/32" sheet thickness. This is a general guide only and should not be the sole means of accepting or rejecting this material. The data listed here falls within the normal range of product properties, but should 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.

Wastewater Treatment Process Flow Diagram



NOTE: This is a graphical representation of a wastewater treatment process, 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.



Durlon® Product List

1. 5000, 7925, 7950, 8500
2. 5000, 7925, 7950, 8500
3. 5000, 7925, 7950, 8500
4. 7900, 7925, 7950, 8500
5. 7900, 7925, 7950, 8500
6. 8300, 8500, 9000
7. 8300, 8500, 9000
8. 8300, 8500, 9000
9. 7910

3 Main Stages of the Wastewater Treatment Process:

PRIMARY TREATMENT:
This stage involves the physical removal of solid and organic materials from wastewater. Industrial equipment used during this stage include:

1. BAR SCREENS:
These are used to remove large objects such as plastics, rags, and sticks from the wastewater.

2. GRIT CHAMBERS: These are used to remove inorganic materials such as sand, gravel, and eggshells from the wastewater.

3. SEDIMENTATION TANKS: These are used to allow the solid materials in the wastewater to settle to the bottom of the tank, forming a sludge layer.

SECONDARY TREATMENT:
This stage involves the biological treatment of wastewater to remove dissolved organic matter and other contaminants. Industrial equipment used during this stage include:

4. AERATION TANKS: Used to provide oxygen to micro-organisms that break down the organic matter in the wastewater.

5. CLARIFIERS: These are used to separate the micro-organisms from the treated wastewater and form a sludge layer.

6. DISINFECTION EQUIPMENT: These are used to kill any remaining pathogens in the treated wastewater, using methods such as chlorine or ultraviolet radiation.

TERTIARY TREATMENT:
This stage involves the removal of any remaining contaminants from the treated wastewater to make it safe for reuse or discharge into the environment. Industrial equipment used include:

7. FILTRATION SYSTEMS: These are used to remove fine particles and remaining organic matter from the treated wastewater, using methods such as sand filters, membrane filters, or activated carbon filters.

8. CHEMICAL TREATMENT EQUIPMENT: These are used to remove remaining nutrients such as phosphorus and nitrogen from the treated wastewater, using methods such as chemical precipitation or biological nutrient removal.

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. Our goal is to ensure performance and safety while adhering to the quality management system registered to ISO 9001:2015.

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

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