DryShield®

User Guide

Instructions for the use of:

DS1 Isolation System

DryShield Autoclavable Mouthpieces

DryShield Single-Use Mouthpieces

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Autoclavable Mouthpieces

X-Pedo Pedo Small Medium Large

Single-Use Mouthpieces

Pedo Small Medium Large

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

From The Founder.

Thank you for joining the community of dental professionals discovering the joy of dentistry with DryShield! My name is Dr. Lan and I've been a practicing general and pediatric dentist for almost 20 years. I'm also the founder of DryShield, a company specializing in isolation, which was developed to serve a need that I and many of my colleagues faced - creating a comfortable, all-in-one isolation device that is simple to use, and which fits every practice.

DryShield combines the tasks of a high-suction evacuator, bite block, tongue shield, cheek retractor, and oral pathway protector in one elegant device. It was designed with the dentist in mind, offering total control by keeping the working area dry and visible. We made DryShield so you can focus on what you do best: providing high-quality dentistry for your patients.

Patients love it too - the soft, flexible mouthpieces are designed for maximum comfort and available in multiple sizes to accommodate every mouth, including children. Patients especially enjoy the shorter procedure times that come from using DryShield.

Installation of the portable DryShield is quick and easy, transforming your practice in seconds. With shorter procedure times, you'll find you can schedule more patients in a day and do more with each appointment. Whether you are a practice owner, associate, dental hygienist or assistant, I know you will love DryShield and the freedom it offers.

Founder

D R . L A N

Dr. Lan

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Table of Contents

Section 1: DS1 Isolation System 6

Product Contents 7

DS1 Installation 8

Portable Operatory Kit 9

Y Connector Kit Installation 10

Time Savings Chart 12

Section 2: Mouthpiece Setup

Step 1: Connect 14

Step 2: Place 15

Step 3: Fit 16

Section 3: Autoclavable Mouthpieces 19

The Autoclavable Mouthpiece 20

Product Contents 22

Warnings & Precautions 23

Mouthpiece Sizes 24

Interchangeable Bite Block 25

Cleaning, Sterilization and Maintenance 26

Section 4: Single-Use Mouthpieces 27

The Single-use Mouthpiece 27

Product Contents 28

Warnings & Precautions 29

Mouthpiece Size 30

Miscellaneous

Letter from the Founder 3

Symbols Glossary 5

Troubleshooting 31

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Symbols Glossary

Caution

Non-sterile

Do not use if package is damaged

Consult instructions for use

Single-use only

Manufacturer

Catalog number

Authorized representative in the European Community

User:

DryShield is intended to be used by a dental professionals.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Section 1

DS1 Isolation System

(pictured with mouthpiece attached)

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Product Contents

DryShield Isolation System:

REF DS-SYS- 001

Includes:

DryShield DS1

REF DS-SYS-002

Portable Operatory Kit

REF DS-SYS- 001-P

Y Connector Kit

REF DS-SYS- 001-Y

Cleaning Brush

REF DS-SYS- 001-B

DryShield O-Ring

REF DS-SYS- 001-R

DS Lite:

REF DS-SYS- 002

Accessories sold separately:

Whisper Hose

REF DS-SYS-001-W

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

DS1 Installation

3 Easy Steps

1

Twist off standard HVE with attached coupler from hose.*

2

Attach DS1 to existing hose by twisting into place.

3

Place DS1 with attached hose onto the assistant toolbar.

*Confirm dental air compressor and vacuum system are operating prior to using DryShield.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Portable Operatory Kit Installation*

2 Easy Steps

1

Attach one end of portable kit to standard HVE.

2

Attach DS1 to other end of portable kit.

*Included with DryShield Isolation System

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Y Connector Installation*

4 Easy Steps

1

Disconnect standard HVE hose from main canister.

2

Connect Y Connector hose to canister's port.

3

Attach standard HVE hose to one end of the Y Connector.

4

Attach DryShield to the other end of the Y Connector.

*Included with DryShield Isolation System

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Time Savings

General Dentistry

Procedure	DryShield Advantage	Benefits
Composite Fillings	Isolates the oral cavity, keeps the mouth dry, shields the tongue, and retracts the cheek, making procedures easier and faster	Reduce treatment time
Crown/Bridge/Veneer/ Indirect Preparations	Guards the tongue and throat, retracts the cheek and provides continuous suction of the oral environment	Reduce preparation time
Impressions	Isolates the working area and keeps the mouth dry for high-quality impressions	Create quality impressions
Cementations	Protects the oral cavity from accidental aspiration	Ensure patient safety and protection from oral aspiration
CAD/CAM Restorations	Isolates the oral cavity and provides continuous suctioning, leading to quality impressions and restorations	Reduce preparation time and expect quality impressions
Implant Restorations	Protects the oral cavity, allows complete control and superior visibility of the working area	Reduce treatment time
Surgical Extractions	Protects the oral cavity from accidental aspiration of tooth and/or fragments	Provide patient safety and protection from oral aspiration

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Pediatric Dentistry

Procedure	DryShield Advantage	Benefits
Sealants	Shields the tongue, provides continuous suction and keeps the mouth dry, leading to easy-to-place, long-lasting sealants	Reduce sealant placement time
Fillings	Guards the tongue, retracts the cheek and provides continuous suction, making procedures easier	Reduce preparation time
SSC/Ceramic Crown Preparations	Isolates the working area and provides continuous suction of the oral environment	Reduce preparation time
Crown Cementations	Protects the oral cavity from accidental aspiration during cementation	Ensure patient safety and protection from oral aspiration
Chairside Space Maintainer	Protects the oral cavity from accidental aspiration during fabrication and cementation of space maintainer	Ensure patient safety and protection from oral aspiration

Dental Hygiene

Prophy/Scaling/Root Planing	Shields the tongue, retracts the cheek, and provides continuous suction, thus eliminating breaks and interruptions during procedure	Reduce treatment time

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Step 1: Connect

Connecting Mouthpiece

1

Spray a mixture of air and water from syringe into the inner lining of the mouthpiece connector.

2

Slide and twist lubricated mouthpiece using a rocking motion onto DS1 until it locks into place underneath.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Step 2: Place

Placing Mouthpiece

1

Fold tail in towards the center of the mouthpiece.

2

Fold tail and outside edges together towards the center of the mouthpiece with one hand while using the other hand to control the bite block and DS1.

3

Slowly insert in the center of the mouth, lining up the bite block's anterior edge to distal of the canine (For kids, midline of the primary lateral).

4

Release the mouthpiece, allowing the tail and outside edges to fall back into its natural position.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Step 3: Fit

Fitting Mouthpiece

1

Use finger pressure to adapt the cheek retractor along the inner surface of the cheek. Adapt the transition area along the distal part of the most posterior molar. Adapt the tongue shield along the inside of the lingual surfaces of the posterior teeth into the lingual vestibule.

2

Place bite block distal to the maxillary canine and have patient bite down onto bite block.

3

Make sure outline of mouthpiece fits comfortably in patient's mouth.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Step 3: Fit

Too small

Too big

Correct fit

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Section 2

DryShield Autoclavable Mouthpieces

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

The Autoclavable Mouthpiece.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

1 Suction
Keeps your work environment dry, clean and visible (Replaces high suction and saliva ejector).

2 Interchangeable Bite Block
Improves access and maximizes patient comfort to accommodate every mouth size.

3 Tongue and Oral Pathway Shield
Keeps patient's tongue shielded and protected from trauma (Replaces cotton rolls and gauzes).

4 Airway Protection
Protects the airway from particles and debris (Alternative isolation to rubber dam).

5 Cheek Retractor
Keeps patient's cheek retracted to improve visibility and protect it from trauma (Replaces dry angle).

Easy-to-Insert Design
Mouthpiece can be inserted in a few seconds, and removed even faster.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Product Contents

Mouthpieces are sold separately and are available in 5 different sizes:

Mouthpiece X-Pedo 4-pack
REF DS-MPX- 001

Mouthpiece Pedo 4-pack
REF DS-MPP- 002

Mouthpiece Small 4-pack
REF DS-MPS- 003

Mouthpiece Medium 4-pack
REF DS-MPM- 004

Mouthpiece Large 4-pack
REF DS-MPL- 005

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Autoclavable Mouthpiece

Warnings

⚠ **WARNING:** Do not use the mouthpiece if package seal is broken, open or damaged.

⚠ **WARNING:** Do not cold sterilize the mouthpiece. All DryShield mouthpieces MUST be cleaned and autoclaved following the instructions for use after each patient use.

⚠ **WARNING:** Do not use surface disinfectants on the mouthpiece. All Autoclavable DryShield mouthpieces MUST be cleaned and autoclaved after each use.

⚠ **WARNING:** Do not attach the bite block to the mouthpiece when autoclaving. Bite block and mouthpiece are to be detached and placed into the same sterilization bag during autoclaving process.

⚠ **WARNING:** Do not use if there is a tear, fracture, or breakage in the mouthpiece or DS1.

⚠ **WARNING:** When using DryShield during sedation dentistry, patient monitoring and following established guidelines and procedures by the dentist and anesthesiologist are required.

Precautions

⚠ **CAUTION:** Do not use DryShield until you have reviewed the user guide, watch the training videos, and/or have received our phone training on how to install into the operatory room, how to select and place the mouthpiece size correctly, and how to clean and sterilize it.

⚠ **CAUTION:** It is recommended to flush the mouthpiece with water from time to time for dental procedures involving high evacuation of blood to avoid decrease in suction power.

⚠ **CAUTION:** Do not autoclave the DS1 at temperatures above 121 C as it may damage it.

⚠ **CAUTION:** Do not overextend the bite block strap or at the mouthpiece slit opening as it may tear or break it.

⚠ **CAUTION:** Do not step, crimp, or fold the suction hose in any way as that could cause loss of suction power.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Mouthpiece Sizes

Size	Age Consideration	Dentition Guidelines
X-Pedo	3–4 years of age and younger	Primary dentition
Pedo	7–8 years of age and younger	Primary or mixed dentition
Small	8–9 years of age to young teens	Fully-erupted permanent 1st molars
Medium	Teens to adults	Existing permanent 2nd molars
Large	Adults	Permanent dentition with large vertical opening

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Interchangeable Bite Block

Attaching Bite Block

1

Line angle of bite block strap with the angle of strap region on mouthpiece.

2

Slide bite block onto mouthpiece, ensuring that the plug is locked in place and the strap lies flush with the mouthpiece.*

Detaching Bite Block

1

Pull bite block from the plug until bite block is detached from it.

2

Slide bite block strap from mouthpiece.

*While most patients will fit the same size bite block as mouthpiece, DryShield bite blocks are interchangeable so you can accommodate all patients. For example, for a patient with limited opening, go down a bite block size.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Cleaning, Sterilization and Maintenance

Things You Should Know

The DryShield DS1 is made from a high heat-tolerant material, and the DryShield mouthpiece is made of an autoclavable silicone material. All DryShield components are completely autoclavable. DryShield recommends following standard infection control protocols for sterilization.

DryShield DS1

- After completion of dental procedure, DryShield recommends running the DryShield DS1 with a non-corrosive, pH neutral enzymatic cleaning solution and performing a surface disinfection with a disinfectant wipe between each patient. Users have the option to sterilize the DryShield DS1.
  - Maintenance of the lever o-ring is done through visual inspection. Replace o-ring when lever function decreases.

DryShield Autoclavable Mouthpiece

- After completion of each dental procedure, detach mouthpiece from bite block and place both in ultrasonic cleaner for 15 minutes.
- Next, clean the separated mouthpiece and bite block of debris by thoroughly scrubbing with soap and water or a detergent solution.
- Clean the inside of the mouthpiece through access at the slit opening and at the suction connector region using a long-handled brush and thorough scrubbing.
- Then, rinse under running water, air dry and place in autoclave pouch to be sterilized.
- The DryShield Mouthpiece MUST BE sterilized between each use. Sterilize in a steam autoclave machine at minimum 121 °C (250 °F) for a minimum of 30 minutes. Allow a minimum of 30 minutes in drying cycle.
  The sterilization parameters for the DryShield Mouthpiece are found below.

Cycle Type	Parameter	Minimum Set Point
Gravity 250° F (121°C)	Exposure Temperature	250° F (121°C)
	Exposure Time	30 minutes
	Dry Time	30 minutes

DryShield Autoclavable mouthpieces are autoclavable up to 50 times.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Section 3

Single-Use Mouthpieces

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Product Contents

DryShield Single-Use Mouthpieces:

Single-use Mouthpieces are available in 4 different sizes:

Pedo Single-Use Mouthpiece (20-pack)

REF DS-SUP-300

Small Single-Use Mouthpiece (20-pack)

REF DS-SUS-400

Medium Single-Use Mouthpiece (20-pack)

REF DS-SUM-500

Large Single-Use Mouthpiece (20-pack)

REF DS-SUL-600

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Single-Use Mouthpiece

Warnings

⚠ **WARNING:** DO NOT RE-USE. Re-use can result in cross infection and transmission of infectious pathogens.

⚠ **WARNING:** Do not use the mouthpiece if package seal is broken, open or damaged.

⚠ **WARNING:** Do not cold sterilize, wash, or sterilize the mouthpiece.

⚠ **WARNING:** When using DryShield during sedation dentistry, patient monitoring and following established guidelines and procedures by the dentist and anesthesiologist are required.

Precautions

⚠ **CAUTION:** Do not use DryShield until you have reviewed the user guide, watch the training videos, and/or have received our phone training on how to install into the operatory room, how to select and place the mouthpiece size correctly.

⚠ **CAUTION:** Do not step, crimp, or fold the suction hose in any way as that could cause loss of suction power.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Mouthpiece Sizes

Size	Age Consideration	Dentition Guidelines
Pedo	7–8 years of age and younger	Primary or mixed dentition
Small	8–9 years of age to young teens	Fully-erupted permanent 1st molars
Medium	Teens to adults	Existing permanent 2nd molars
Large	Adults	Permanent dentition with large vertical opening

*Note that Single-Use Mouthpieces do not have interchangeable bite blocks.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

Troubleshooting

We're Here to Help

I want to also have the standard HVE available for my patients.
There are two options: 1) Use Y connector kit installation 2) Connect standard HVE hose to extra standard HVE port.

Can I connect DryShield to my extra standard HVE port?
You may connect DryShield if your canister has an extra standard HVE port.

I want to use my standard HVE, but what if my canister doesn't have an extra standard HVE port?
Installing the Y Connector Kit will allow you to use DryShield along with the standard HVE.

What if my patient has a sensitive gag reflex?
Encourage your patient to breathe through their nose, not the mouth—as they would when taking an impression.

The suction feels weak.
Clear any debris blockage in the hose, waste filter, and traps. For best results, regularly inspect DryShield components and purge the lines with an enzymatic cleaning solution.

I'm having difficulty putting the mouthpiece on the DS1.
Spray a mixture of air and water on the inner lining of the mouthpiece. Slide the mouthpiece onto the DS1 with a rocking motion until it locks into place. Please refer to page 10.

I'm having difficulty placing the mouthpiece into my patient's mouth.
Spray a mixture of air and water on the back surface of the mouthpiece for lubrication. Then refer to placement technique on page 11.

What is the sterilization protocol for DryShield Autoclavable mouthpiece?
Please refer to page 26 or the Sterilization Guide provided.

How do I know it's time to replace my DryShield Autoclavable mouthpiece?
As a rule of thumb, when the mouthpiece begins to take on a perceptible tint, it is an indicator that it may be time for disposal and replenishment.

Can I re-use single-use mouthpieces in any way?
No, do not re-use single-use mouthpieces. Re-use can result in cross infection and transmission of infectious pathogens.

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020

DryShield®

DryShield, LLC
4 Mount Royal Ave, Suite 200
Marlborough, MA 01752 USA

info@dryshield.com | dryshield.com

Sales: 877.207.1551 | Customer Service: 800.216.5506

EC REP

Medical Device Safety Service GmbH
Schiffgraben 41
30175 Hannover, Germany

© 2022 Solmetex LLC. All Rights Reserved.
DryShield® and the DryShield® logo
are registered trademarks of Solmetex LLC.

Patented and patent pending in the U.S. and worldwide.
DryShield.com/patents
dryshield_userguide_RevE 10.31.22

Solmetex™

Solmetex Ex. 2018
Ascentcare Dental Products v. Solmetex - IPR2025-01020