

PREMIUM ALGINATE SYSTEM

# ALGINATE WHITEPAPER



-  
Absolutely everything  
there is to know about  
alginate!

YOUR  
IMPRESSION  
IS OUR  
SPECIALTY

CAVEX



# ABOUT CAVEX

## OUR HISTORY



-  
It all started in 1908, when the only solution to most dental issues was extraction. Two pharmacists from Haarlem, Mr Keur and Mr Sneltjes, realised that the extraction of a tooth would be considerably more comfortable if a local anaesthetic could be used. And that is how the first dental product came into being: **Selectocaine anaesthetic fluid**.

As the number of materials available for use within dentistry began to increase, the treatment goal shifted from extraction to preservation and restoration. The Keur & Sneltjes company, which had meanwhile been founded, responded to that shift by developing a revolutionary filling compound based on amalgam, and because this meant that cavities (cav) became a thing of the past (ex), the name 'Cavex' was chosen for the product. Later on, the company split in two; one entity continued under the name 'Keur & Sneltjes' and the other became 'Cavex Holland'.

The years which followed saw strong growth for the company worldwide thanks to the popularity of Cavex amalgam. In the meantime, an increasing number of solutions were being devised within the dental industry, one of which was the dental crown. To enable the manufacture of a crown, an exact copy of the oral situation was required, so Cavex developed a material for that purpose. This was based on a combination of calcium sulphate and alginic acid and marked the origin of Cavex alginate. After the testing of numerous mixtures, formula 37 was found to be the perfect recipe and so Cavex CA 37 was launched. This was to become the benchmark for dental alginates. Since then, Cavex has extended its range to five unique alginates which form part of the Premium Alginate System, a complete system for the perfect storage and processing of alginates.

In this document we explain everything there is to know about alginates. From harvesting of the seaweeds to the chemical structure the alginic acid form with calcium sulphate. Also we describe the various applications of alginates. There is a lot more to do with alginates than you might have thought until now...

PREMIUM DENTAL PRODUCTS



# ABOUT ALGINATE FROM THE TOP



Alginates are the first chemically setting elastic polymer impression materials used in dentistry. Several facts and features make alginates very suitable for in mouth impression taking. Two of the most important ones are:

1. The relative temperature independent sol to gel transition in presence of cations like  $Ca^{2+}$ , of the alginate molecule.
2. The hydrophilicity which makes it easy to use in the wet intra oral environment.

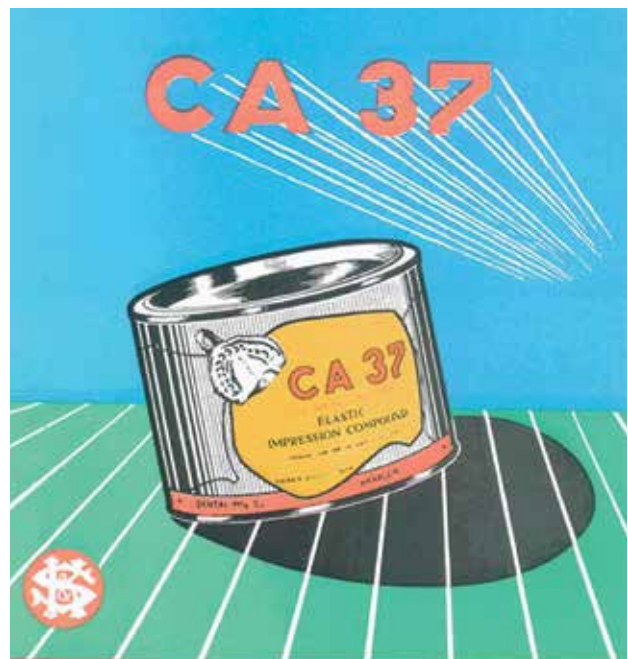
Since alginates are derived from seaweed they are relatively cheap. The fact that they are hydrogels make them sensitive to dehydration thus distortion over time. Almost immediate casting of the impression has always been one of the issues with dental alginates. Big improvements were made in recent decades regarding this specific issue.

We nowadays produce very stable, accurate alginate impression materials that can remain dimensionally stable for up to 216 hours (9 days)!

It was in fact scarceness because of the second world war that set focus on developing irreversible alginates. A suitable substitute for reversible hydrocolloids was needed. One of the results of this research was Cavex' CA37 (Calcium Alginate, Recipe 37) still used in thousands of dental practices around the world and a well known reference material in many studies.

Irreversible hydrocolloids (dental alginates) are still the most used general impression materials in today's dental practices. The use far exceeds that of other available impression materials. Dental alginates are easy to manipulate, don't need elaborate equipment, are comfortable for the patient and are relatively inexpensive.

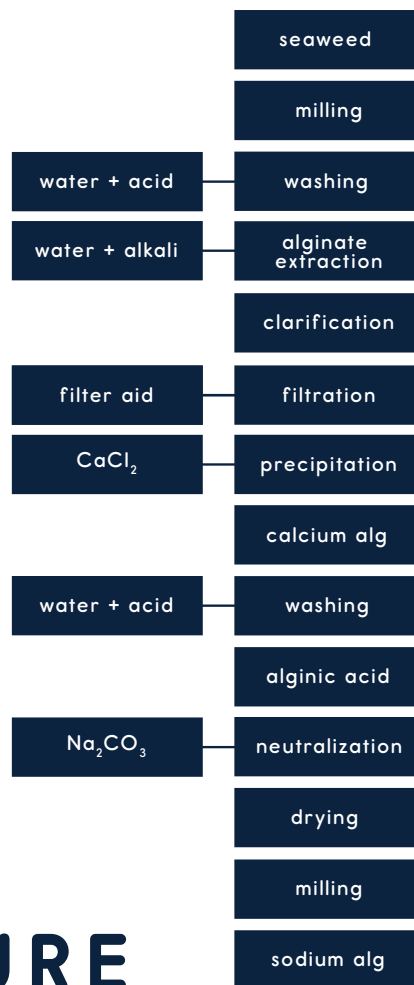
Alginate impression materials nowadays are used for the production of study casts, removable prostheses, orthodontic appliances, splints, mouth guards, bleach trays and so on. When we focus on dimensional stability and in some cases tensile strength, dental alginates meet all the criteria of an ideal dental impression material.



# ALGINATE CHEMISTRY

Alginates are natural ionic polysaccharides, forming a gel in the presence of cations like calcium ions ( $\text{Ca}^{2+}$ ). The most important active ingredient in dental alginates is one of the soluble alginates (potassium, sodium or triethanolamine). When these soluble alginates are mixed with water they form a sol. The sol reacts with calcium sulphate to form an insoluble calcium alginate gel.

The calcium ions replace the sodium ions on adjacent molecules to form a cross-linked so called "brush-heap" polymer network. Water is trapped in the cross-linked maze forming the gel structure. The reaction is slowed by adding sodium phosphate as a retarder. This addition increases the working time.



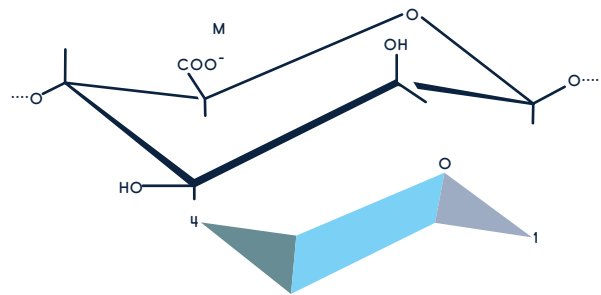
# ALGENIC ACID STRUCTURE

The natural substance derived from seaweed that is used in dental alginate impression materials is alginic acid. Most of its inorganic salts are insoluble in water, but sodium, magnesium, potassium and ammonium salts are.

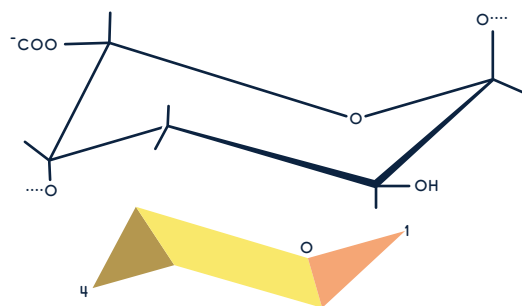
Alginic acid is a complex organic compound composed of  $\alpha$ -L-guluronic acid and  $\beta$ -D-mannuronic acid monomers. Alginic acid polymers only occur as three types and their presence is depending on the seaweed they are derived from.

One type consists of blocks of D-mannuronic acid units, another one of blocks of L-guluronic acid units and the third one consists of blocks of alternating D-mannuronic acid and L-guluronic acid units. All three have different conformational preferences and behaviours. The chain arrangement is of great importance, since this is responsible for the strength of the molecule. It is interesting to know that the alginic acid can absorb 200 to 300 times its weight in water.

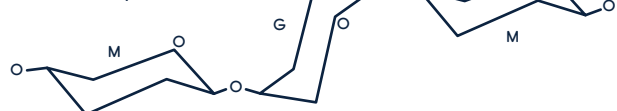
$\beta$ -(1→4)-D-Mannuronic Acid



$\alpha$ -(1→4)-L-Guluronic Acid



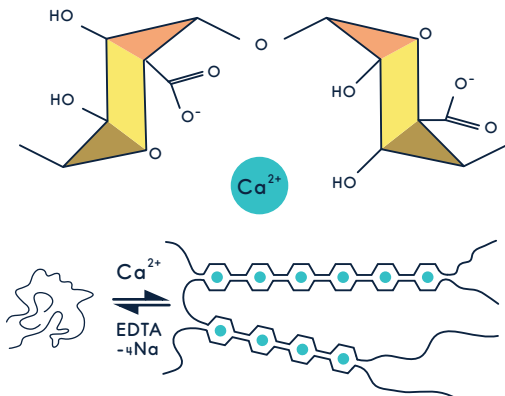
Chain of  $\beta$  &  $\alpha$



# THE EGG BOX

Calcium ions induce chain-chain associations within the alginic acid molecules. These associations constitute the junction zones which are responsible for the gel formation.

This junction zone is popularly known as "the egg box model". This model represents helical chains packed with calcium ions between them. The egg box model is used for a better understanding of the relatively complex structural system of alginate guluronate systems. The gel strength is mainly related to the level of polyguluronate present in the material.



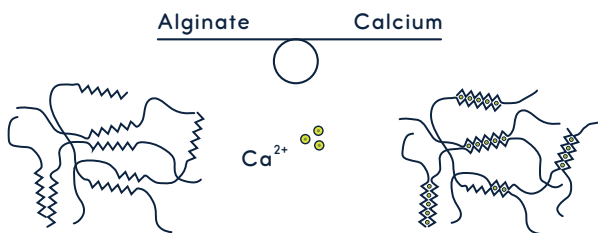
Sol-gel transition model | Sodium alginate vs. calcium (Egg Box Junction)

# SYNERESIS

Syneresis is in fact a part of the aging process of the reacted alginate. The gel contracts and exudes liquid. Also after reaching the gel point the chemical reactions continue producing stiffening, strengthening and shrinkage of the polymer network. The gel point is not the end of a process but just the stage of polymerisation where the network begins to restrain the liquid. Continued polymerisation is causing syneresis. The gel network shrinks since the liquid is expelled from the product.



Two Ca-OH groups take up more space than the Ca-O-Ca group. This is why the solid phase contracts during condensation.

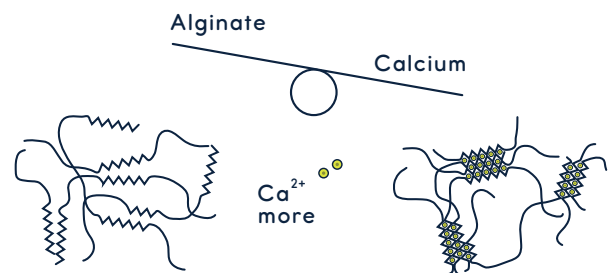


The ideal situation is in balance  
The reaction is stopped → No Shrinkage

Two important role variables, but not the only ones, in preventing syneresis are:

1. The stiffness of the gel and therefore the resistance to syneresis is the highest in GG-blocks followed by MM-blocks and finally MG-blocks. Resistance to syneresis is directly related to dimensional stability.
2. It is not only the block types that influence the syneresis, also the amount of Ca<sup>2+</sup> plays an important role.

Higher amounts of calcium ions cause increased syneresis. Several alterations, like variations in pH, adding non gelling guluronate blocks or low molecular weight alginate do also influence the degree of syneresis.



Cross-linking → Shrinkage!

# WATER CONTENT

-  
Changing the water content in a set gel will cause shrinkage or expansion, thus affects the dimensional stability. Dental alginates have a water content between 60% and 70%.

The water holding capacity depends on several factors like pH, molecular weight, ionic strength and the nature of the ions present.



Diatoms

# DENTAL ALGINATES

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The powder component of a typical dental alginate consists of a soluble alginate, a reactor, a retarder, an accelerator and fillers.

The soluble alginate reacts with the reactor to form insoluble calcium alginate, which forms the gel. The retarder, giving the user some working time, reacts with the reactor to partly prevent the initiation of the reaction until all of the retarder is consumed.

Now for patient comfort the accelerator takes over and ensures the alginate to set completely in a short period of time.

The fillers in dental alginates are added to control physical properties including viscosity. The main filler is diatomaceous earth. A more stable gel can be produced by using additional filler particles with surfaces that are charged in a solution. Many oxide particles do exhibit such a behaviour.

Component	Function	Weight (%)
Sodium or potassium alginate	Soluble alginate	10 - 15
Calcium sulphate	Reactor	10 - 15
Magnesium oxide	Filler	2 - 4
Potassium titanium fluoride	Accelerator	2
Diatomaceous earth	Filler	60 - 70
Sodium phosphate	Retarder	1 - 4
Pigment	Colour	< 1
Flavouring	Taste / Smell	< 1
Liquid paraffine	Anti dust	2

# CAVEX ALGINATE

## SETTING THE STANDARD

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Over 75 years of research and experience have resulted in superior alginate impression materials with a flawless and worldwide reputation.

Thousands of dental professionals benefit daily from the unrivalled quality and advantages of the Cavex Premium Alginates.

But what is it that makes Cavex alginates so good that they leave the competition far behind? Impression materials, and especially alginate, are the backbone of Cavex and it is with this core competence that Cavex aspires to achieve absolute perfection.

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Cavex alginates are extremely tear-resistant and strong. By using only the highest quality raw materials and through an unrivalled knowledge of the alginate production process, Cavex has succeeded in producing alginate impression materials with superior tear-resistance. In general, the tear-resistance of Cavex alginates exceeds the criteria of ISO at least 2.5 times, while most competitors barely achieve the minimum criteria.

All Cavex alginates can be poured at least twice. Even more important, impressions made with Cavex alginate do not tear when removed from the mouth, thus no re-work. Not only does this save time and money, it also increases patient comfort significantly.

In this process, Cavex alginates have long surpassed the criteria as established by authorities such as ISO/ADA and Cavex is now setting its own standards, which are reflected in the Cavex alginate symbols placed on every bag of cavex alginate.





# THE BEST ALGINATES IN THE WORLD

## WHAT MAKES US UNIQUE

Tens of thousands of professionals use Cavex alginates for dental impressions every day. To trace the success of our dental impression materials we must take a trip back in time. In the 1950's Cavex CA37 (Calcium Alginate mixture, recipe number 37) was introduced. Now, well over half a century later, our all-purpose alginate is still used in thousands of dental clinics around the world. Ever since Cavex CA37 became a global benchmark, Cavex has developed several more unique alginates.

### Quality is crucial

Safety, reliability, and accuracy: the three vital pillars of dental impression materials. To guarantee that Cavex alginates always meet the strictest quality criteria of organizations such as ISO and ADA, we execute quality checks in several stages of the production process. Hence, we inspect the quality of the material before, during and after production. Also, we conduct research daily and stay updated with the latest developments in the field of alginate dental impression materials. We strive for absolute perfection, time and time again.

### Cavex alginate properties

Cavex alginates do not meet, but exceed the strictest quality criteria. To deliver the utmost quality, we raise the bar when it comes to our alginate products. Standards for our dental alginates can be categorized into three characteristics, which are found on the packaging of each alginate product.

### Tear strength

- Tear strength at least 2,5 x ISO/ADA criterion
- Can be poured at least twice
- No recasting

### Snap-set

- Predictable processing time
- Short setting time
- Minimal patient stress

### Shelf life

- Developed to perfection
- Highest raw material quality
- Long-term mechanical stability
- Five years of perfect impressions



EVERYTHING  
FOR THE RIGHT  
IMPRESSION

# PREMIUM ALGINATE SYSTEM

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Various external factors can influence the quality of an alginate impression. The dosing of water and alginate powder, but also the water temperature, mixing ratio, mixing technique and storage conditions. Cavex has developed the 'Premium Alginate System' consisting of various alginate accessories to optimize and standardize these external factors. With our alginate accessories, you can always rely on a consistent alginate mixture and with that a perfect alginate impression, time after time.



# CAVEX CREAM

THE BEST IN THE WORLD



- Detail reproduction of at least 5  $\mu\text{m}$
- Easy mixing
- Highly elastic
- High tear strength
- Normal / Fast Set
- 5 year shelf life
- Outstanding scannability

[cavex.nl/cream](http://cavex.nl/cream)

Cavex Cream Alginate is the latest addition to the Cavex alginate range. Due to a combination of 5  $\mu\text{m}$  accuracy, high tear strength and excellent elasticity, the properties of this dental impression material challenge those of silicone quality. Add extremely rapid water absorption, a user-friendly creamy consistency during mixing, snap-set, and five-year shelf life. Cavex Cream Alginate is an unrivaled alginate.

This alginate impression comes with a beyond pleasant bubble-gum scent to sink one's teeth into, hence avoiding patient bite resistance. Cavex Cream Alginate is available in Normal (90 sec.) and Fast Set (60 sec.).

# CAVEX COLORCHANGE

## VISIBLE SETTING PROCESS



- Three color changes
- Nine days of dimensional stability
- Tear and deformation-resistant
- Detail reproduction of at least 25 µm
- Maximum compatibility with plaster
- Short setting time
- Fast Set
- Highly elastic
- Dust-free

[cavex.nl/colorchange](http://cavex.nl/colorchange)

User-friendly impression material with virtual intelligence: Cavex ColorChange. This product belongs to the latest generation of Cavex alginates. Color changes indicate different procedural stages. Does the alginate's color change from violet to pink? Mixing time is over. Does the alginate change from pink to white as the impression it is taken? The alginate has hardened, and the impression tray can be removed from the patient's mouth. After thirty minutes, the completely cured alginate turns pink again.

- Violet to pink: end of mixing time (30-60 sec.)
- Pink to white: end of setting time (60 sec.)
- White to pink: fully cured (30 min.)

This dental impression alginate is available in Fast Set, which means that it is cured after one minute. Due to Cavex ColorChange's elastic properties, this alginate product is highly suitable for orthodontic clinics.

# CAVEX CA37

## THE GLOBAL STANDARD



- Solid alginate impression
- Optimal tear strength and deformation resistant
- Natural pink color
- Peppermint flavor
- Detail reproduction of at least 50 µm
- Normal / Fast Set
- Compatible with all plaster types
- Short setting time

[cavex.nl/ca37](http://cavex.nl/ca37)

- Cavex CA37 is an all-purpose impression material that is used by tens of thousands of dental clinics worldwide daily. It is the very first alginate impression material to become a benchmark.

This strong alginate is available in Normal (90 sec.) and Fast Set (60 sec.). Due to the short setting time and a pleasant peppermint flavor, patients will experience a pleasant procedure. Furthermore, Cavex CA37 is very suitable for prosthetic procedures.

# CAVEX IMPRESSIONAL

## MAXIMUM ELASTICITY



- Unique combination of high elasticity and tear strength
- Detail reproduction of 25 µm
- Optimal gypsum compatibility
- Clearly legible blue color
- Spearmint aroma
- Dust-free
- Normal / Fast Set
- Suitable for the alginate hydrocolloid technique
- Short setting time

[cavex.nl/impressional](http://cavex.nl/impressional)

- Cavex Impressional enables you to take alginate impressions down to the last detail. The alginate has a unique combination of very high elasticity, tear strength, and detail reproduction (25 µm). Consequently, this alginate product is very suitable for working around metal frames and/or deep undercuts.

Cavex Impressional is available in Normal (90 sec.) and Fast Set (60 sec.). Due to the combination of fast setting and a pleasant spearmint aroma, patients enjoy a more pleasant procedures.

# CAVEX ORTHOTRACE

## THE ORTHODONTIC ALGINATE



- Clearly legible pink color
- Red fruit aroma
- Extra Fast Set
- Rapid water absorption
- Highly elastic
- Short Setting time

[cavex.nl/orthotrace](http://cavex.nl/orthotrace)

Cavex Orthotrace is an orthodontic alginate impression material with a natural fruit scent. The product has been developed based on the needs of orthodontists specifically. Additionally, Cavex Orthotrace contains many features that provide patients with a more pleasant procedure.

Due to reduced setting time, the alginate does not get into the back of the mouth. Hence, by using Cavex Orthotrace a gag reflex in patients is avoided. Moreover, the combination

of pleasant scent and color invites one to sink one's teeth into the impression material.

On top of that, elasticity and high tear strength ensure that the impression can be easily removed from the mouth without tearing. After that, the alginate impression can be cast twice. The firm consistency of Cavex Orthotrace enables the creation of an accurate impression that extends to the muco-buccal folds.



# CAVEX IMPRESAFE

## DISINFECTANT SYSTEM



Hygiene and sterilization are essential in dental clinics and laboratories. That is why Cavex developed a fast, safe, and highly effective dental impression disinfectant: Cavex ImpreSafe.

In just three minutes, this revolutionary disinfectant liquid kills 99.99% of all bacteria, fungi, and viruses, including the coronavirus. The complete system for dental clinics contains:

- A disinfection container
- One liter of disinfection concentrate
- A digital timer

The disinfection fluid is compatible with alginate, polyether, and silicone impressions. One liter of Cavex ImpreSafe equals 33 liters of ready-to-use disinfectant liquid.

Independent laboratory tests prove that Cavex ImpreSafe is highly reliable and efficient. The product complies with EN 1040, EN 1275, EN 1276, EN 1650, EN 13727, EN 13624, EN14476, EN 14561 and EN 14562.

# CAVEX GREENCLEAN

## ALGINATE AND GYPSUM REMOVER



- pH neutral
- Skin-friendly
- Biodegradable
- 1 kg > 500 clean impression trays
- Refreshing smell

[cavex.nl/greenclean](http://cavex.nl/greenclean)

Quickly and easily remove alginate and gypsum residues with Cavex GreenClean. Who would be better to produce an alginate dissolver than the makers of “The Best Alginates in the World”?

Cavex GreenClean is a smart solution for cleaning dental impression trays, instruments, and other accessories. Not by scratching or sanding, but simply by dissolving alginate and gypsum residues. Simply submerge for 15-30 minutes, rinse under running water and the sparkling clean impression tray is ready for use.



# ALGINATE ACCESSORIES

## COMPLETE THE SYSTEM

Various external factors can influence the quality of an alginate impression. The dosing of water and alginate powder, but also the water temperature, mixing ratio, mixing technique and storage conditions. Cavex has developed the 'Premium Alginate System' consisting of various alginate accessories to optimize and standardize these external factors. With our alginate accessories, you can always rely on a consistent alginate mixture and with that a perfect alginate impression, time after time.



# CAVEX ALGINATE ADHESIVE

## IMPRESSION TRAY CONNECTION



- Specifically developed for use with alginates
- Compatible with both metal and plastic impression trays
- Very easy to apply
- No special ventilation measures are necessary
- A minimum of 50 applications per bottle
- Simple removal of any residue with isopropyl alcohol or ethanol (95%)

[cavex.nl/alginateadhesive](http://cavex.nl/alginateadhesive)

Cavex Alginate Adhesive optimizes both the mechanical and chemical connection between the impression tray and the alginate. The product prevents detachment of the impression from the tray when it is taken out of the patient's mouth.

Thanks to a user-friendly brush in the cap and striking blue color, Cavex Alginate Adhesive is very easy to apply. Additionally, less harmful fumes are released using a brush when compared to a spray. Consequently, no special ventilation measures are required.

# CAVEX SCANSPRAY

OPTIMIZE SCANNABILITY



- Highly elaborated and detailed digital impression models
- Compatible with all types of dental impression materials
- Powder-based instead of oil-based

[cavex.nl/scanspray](http://cavex.nl/scanspray)

-  
Cavex ScanSpray was developed to optimize the scannability of alginate impressions. The addition of titanium dioxide enables even the smallest details to be clearly scannable. This powder-based spray is suitable for any type of dental impression material.

Apply a thin layer of Cavex ScanSpray to the impression to enhance a highly elaborated and detailed digital model of the dental impression.



# CAVEX NON-DENTAL ALGINATES

## CLEVERCAST

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Besides five unique alginates, specifically for use within the dental practice, Cavex also produces alginates for other applications like skin-peeling face masks, and for life casting purposes. The latest non-dental alginate is called 'Cavex CleverCast'. CleverCast is a premium lifecasting alginate. We have developed this high-quality product especially for making small and large "life cast" impressions. The alginate is available in two setting times: Normal Set ( $\pm 3$  min.) and Slow Set ( $\pm 7$  min.).

Cavex CleverCast Premium Alginate is based on a unique combination of premium quality ingredients to create an ideal alginate for making impressions of hands, feet, face, or any other body part. One of the characteristics that make Cavex CleverCast 'clever' is the flexible mixing ratio, making it possible to create an alginate mix that perfectly suits your way of impression taking. Besides this, the easy mixing with a minimum of air bubbles and lumps, the smooth mixture consistency, and the unrivaled elasticity and tear strength make Cavex CleverCast a very user-friendly lifecasting alginate. The alginate impression provides a highly detailed reproduction and is therefore the ideal basis for an excellent body casting result.

- Specifically designed for casting small and large impressions of body parts
- Easy to mix into a creamy, smooth substance with minimal lumps and air bubbles
- Unique combination of high elasticity and tear strength
- Very high accuracy
- Normal / Slow Set
- Flexible mixing ratio to meet personal preferences
- Gypsum and resin compatible
- Attractive light-green colour
- Unscented so odourless
- Dustfree
- Non-toxic and non-allergic, safe for all areas of the body
- 3 years shelf life
- Not usable for dental work

[cavex.nl/clevercast](http://cavex.nl/clevercast)





# PREMIUM ALGINATE SYSTEM

Cavex's maxim is **YOUR IMPRESSION IS OUR SPECIALTY**. The word 'Impression' in this refers to our core business: impression materials. Ever since the 1950's we have been dedicated to the development and production of premium alginate impression materials. These many years of Research & Development made us true specialists in alginates which drives us to remain committed to innovation.

## **Cavex Cream, multiple 'The Dental Advisor: Top Award Winner'**

Because we value the opinion of the dentist, we let The Dental Advisor test many of our products, so also our Cream Alginate. After a clinical evaluation by a team of dentists, this unparalleled alginate received a near perfect clinical rating of no less than 97%.

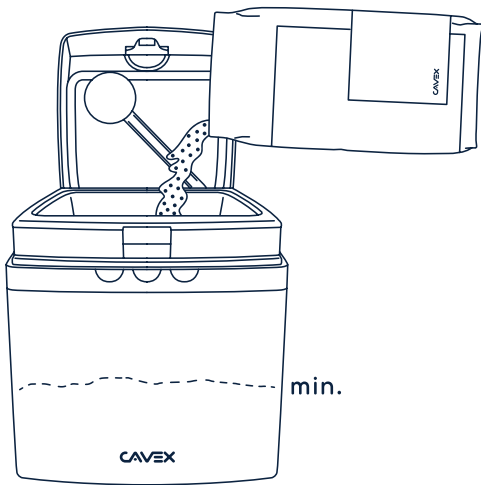
corresponding with the maximum score of 5 pluses, for several years. Professionals praise the color and smell, the extremely high detail rendering and the high tensile strength. In addition to the high rating, Cavex Cream has been awarded the title of 'Dental Advisor Top Winner Award' four several years in a row.



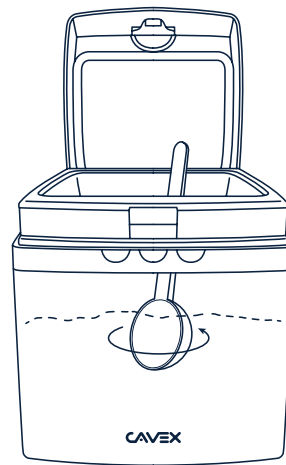
**ALGINATE  
IS OUR  
SPECIALTY**

# THE RECIPE FOR A PERFECT IMPRESSION

## FROM POWDER TO PASTE

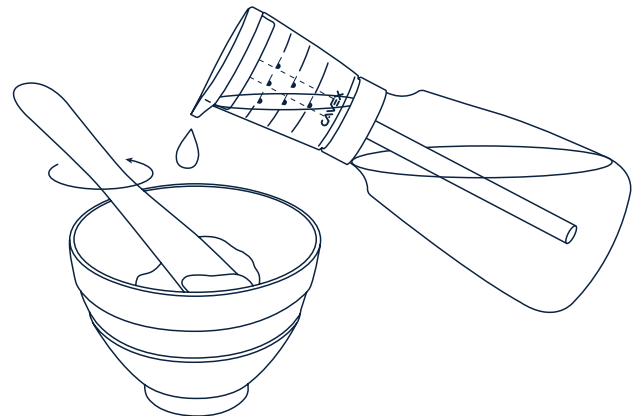
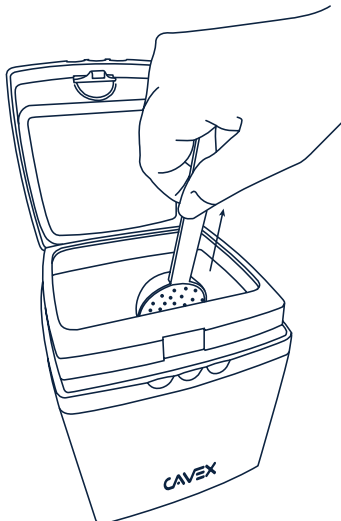


**Step 1**  
Store the alginate in the light and airproof Cavex storage container, to keep it in top condition.



**Step 2**  
Before every use stir the alginate powder to loosen it.

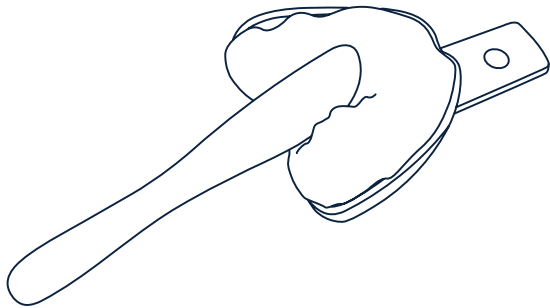
**Step 3**  
Level off the powder in the Cavex measuring scoop for the correct quantity.  
Add the correct amount of room temperature water from the Cavex dosing bottle.



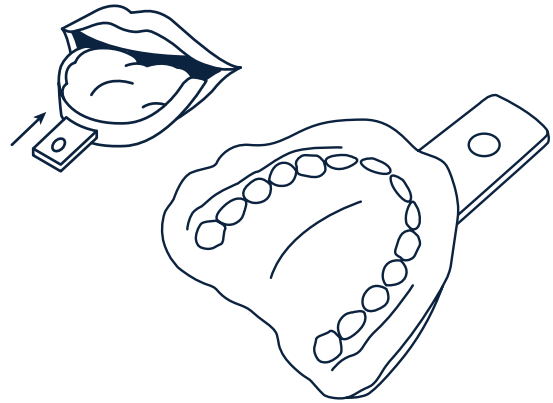
**Step 4**  
Put the powder and water into the flexible Cavex mixing bowl. Stir for 30 seconds until all the water has been absorbed. Rap the spatula sharply against the flexible side until all the lumps are gone and the paste is nice and smooth.

# PREMIUM IMPRESSION

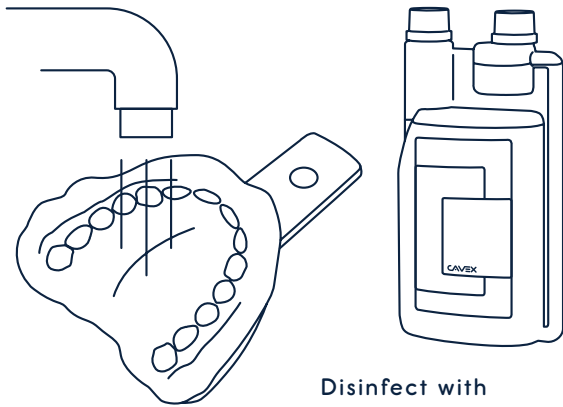
## FROM PASTE TO IMPRESSION



**Step 5**  
Fill the tray with the alginate, indicating the occlusion in the full tray with the spatula.

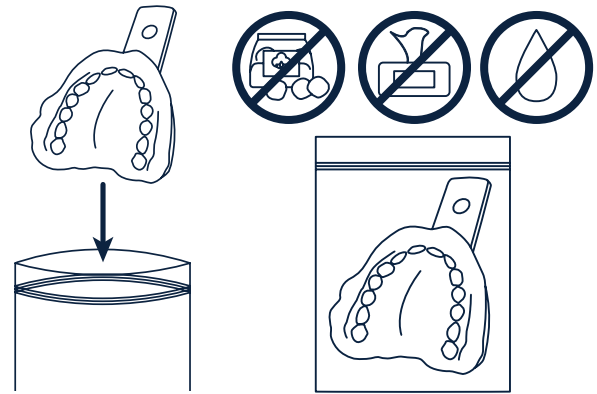


**Step 6**  
Place the tray in the patient's mouth. Allow the alginate to cure and remove the tray in one swift, supple movement.



**Step 7**  
Rinse impression with cold water and shake off any excess water. Disinfect the impression, then rinse again.

Disinfect with Cavex ImpreSafe

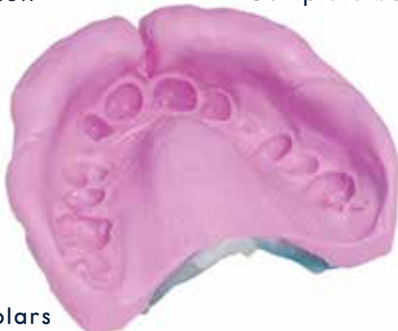


And then the final step, off to the laboratory  
- Place the impression in a plastic bag without adding any water, wet cotton rolls or other moisturisers. Seal the bag hermetically, to retain the atmospheric humidity.

## A GOOD UPPER IMPRESSION

Bridges in the impression

Nice, deep impression  
Complete bucal fold



Back molars completely in impression

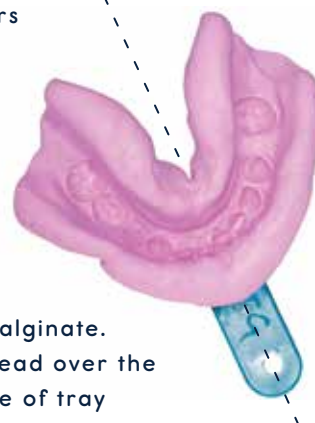
Sufficient alginate.  
Evenly spread over the edge of tray

## A GOOD LOWER IMPRESSION

Centered

Nice, deep impression  
Complete bucal fold

Back molars complete



Sufficient alginate.  
Evenly spread over the whole edge of tray

# AN ACCURATE FIRST IMPRESSION

Credit to: Prof. Dr Rien van Waas, ACTA Amsterdam & Cavex Holland BV

## THE STIFF ALGINATE TECHNIQUE, WHY?

The importance of the impression for the production of a full and partial prosthesis is often underestimated. However an accurate first alginate impression can save you a great deal of time. A combination of the correct impression tray and the right amount of (stiff) alginate guarantees a detailed impression. You will then be in a position to correctly delineate the plaster model.

This results in a perfectly fitting individual tray, which is a precondition for a stable prosthesis. For optimum detail reproduction we recommend that you use stiff alginate. For stiff alginate you dose the normal quantity of alginate powder but with 30% less water. This is shown on the graduated measures for Cavex alginates with a dotted line and 'high viscosity'.

**Clinical Relevance** The stiff alginate technique is highly suitable for impression taking for partial or complete dentures. Stiff alginate easily pushes soft tissue aside revealing the essential anatomical details. Thus very accurate.



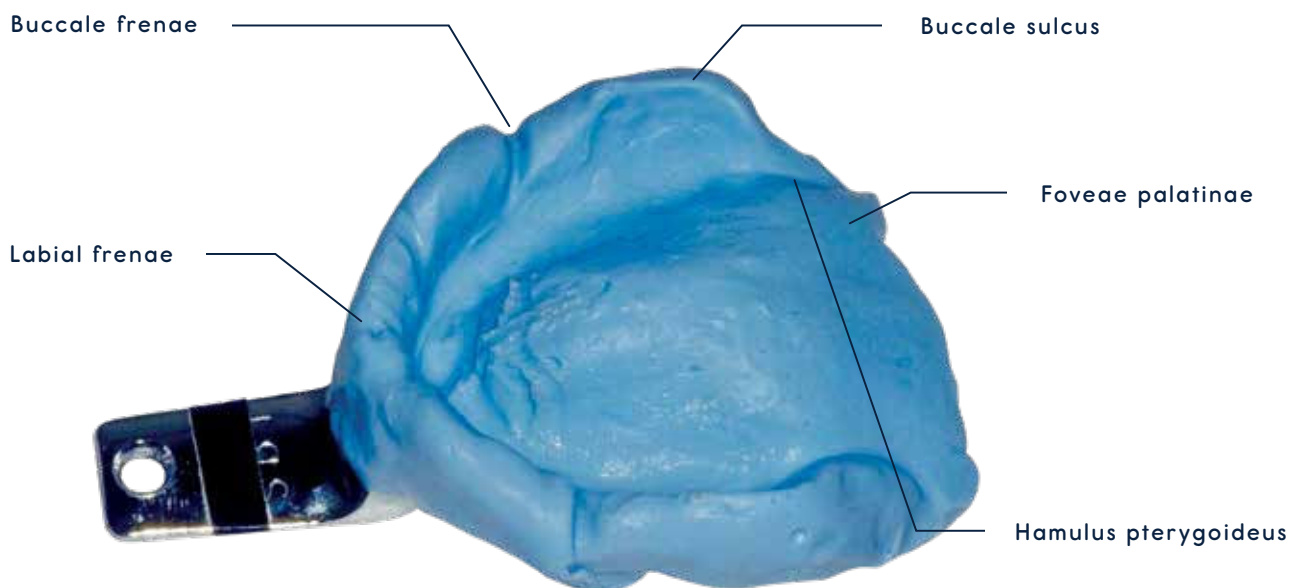
**Clinical Relevance** The stiff alginate technique allows taking a direct, final impression. Also stiff alginate will not drip in the throat of the patient. So the stiff alginate technique is time saving and enhances patient comfort.

# THE TIME-SAVING BASIS FOR A STABLE PROSTHESIS

Not only knowledge of anatomy, but also the step-by-step execution of the impression procedure is needed to achieve a good result. The procedure comprises 5 steps:

- step 1: the primary impression
- step 2: the primary model
- step 3: the customized tray
- step 4: the final impression
- step 5: the final model

In practice, attention is often focused on the "final" impression. A quick impression with alginate, a little bit of alignment of the primary model, getting the dental technician to make a custom tray and then focus all attention on the making of the final impression. However, it is very difficult to achieve a good final result in step 4. This requires a lot of experience. This is quite hard to explain as it is more art than science.



## Advantages

All anatomical structures are visible in the 'over-contoured' impression. Therefore the impression is easily interpretable preventing the impression tray being pushed into the muco-buccal fold with severely resorbed jaws. This prevents interposition of a protruding mouth floor.

For a detailed, step-by-step, instruction of the "Stiff Alginate Technique" please visit [cavex.nl/impressional](http://cavex.nl/impressional).

**Clinical Relevance** Because stiff alginate is very rigid, it has more tendency to tear. This is why Cavex alginates are superior to other alginates when using the stiff alginate technique. Cavex alginates have an unrivelled flexibility and tear strength, easily able to withstand the forces even when used as stiff alginate.

The complete articles of the following scientific summaries can be found on [www.cavex.nl](http://www.cavex.nl): **Marketing tools - Impression Materials / Cavex CA37 / Cases & Research**

#### **Cavex Alginate mixer, Cavex alginates**

The Effect of Mixing Method on the Properties of Alginate  
R. WOORTMAN<sup>1</sup>, C.J. KLEVERLAAN<sup>2</sup>, D. IPPEL<sup>1</sup>, A.J. FEILZER<sup>2</sup>,

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#### **Cavex CA37, Cavex Orthotrace**

Influence of mixing methods and disinfectant on physical properties of alginate impression materials

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#### **Cavex CA37**

Tear Strength and Density of set Alginates: Influence of Mixing

K.Orbach, U.Heun, B.Wöstmann, M.Balkenhol, Department of Prosthodontics, Justus-Liebig-University, Giessen, Germany

#### **Cavex ColorChange**

Model-Based Guided Implant Surgery: Planned Precision

Lambert J. Stumpel III, DDS

#### **Cavex ColorChange**

Accuracy of Single and Double-Poured Casts from Extended Pour Alginate

J. NEHRING, T. IMBERY, C. JANUS, and P. MOON, Virginia Commonwealth University - VCU/MCV, Richmond, VA

#### **Cavex ColorChange**

Accuracy and dimensional stability of extended-pour and conventional alginate impression materials,

Terence A. Imbery, DDS; Joshua Nehring, BS; Charles Janus, DDS, MS; Peter C. Moon, PhD

#### **Cavex ColorChange**

3283 Dimensional Accuracy of an Extended Pour Alginate

J. NEHRING, T. IMBERY, C. JANUS, S. AL-ANEZI, and P.C. MOON, Virginia Commonwealth University - VCU/MCV, Richmond, VA

#### **Cavex CA37, Cavex Outline**

An alternative impression technique for implant-retained overdentures

Bulent Uludag, DDS, PhD and Gozde Celik, DDS, University of Ankara, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey

#### **Cavex Orthotrace**

Cavex Orthotrace shows low dimensional change

C. ERBE, S.RUF, P.FERGER, and M.BALKENHOL, Justus-Liebig University, Giessen, Germany

#### **Cavex Orthotrace, Cavex CA37**

Tear strength as indicator for the stability of Alginates

R. WOORTMAN<sup>1</sup>, C.J. KLEVERLAAN<sup>2</sup>, D. IPPEL<sup>1</sup>, A.J. FEILZER<sup>2</sup>,

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#### **Cavex Alginate Mixer, Cavex CA37**

Mechanical Properties of Device- vs. Hand-mixed Irreversible Hydrocolloids

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#### **Cavex CA37, Cavex Impressional**

Effects of Alginate Adhesives on the Bond Strength of Alginate Impression Material to Stainless Steel

R. WOORTMAN, Cavex Holland BV, Haarlem, Netherlands, J. HERMANS, Cavex Holland BV, Haarlem, Netherlands, and A.J. FEILZER, ACTA, Amsterdam, Netherlands

#### **Cavex ColorChange**

Impressed by impression material

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(\*posterpresentation)

#### **Alginates**

Will the uprise of CAD CAM impression taking cause the end of classic impression materials?

Prof. Dr. Bernd Wöstmann

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#### **Cavex ColorChange**

Linear-Dimensional Stability of Hydrocolloid Impressions after Storage and Double-Pouring

A.P.B. SAMRA, S.C.L. PEDRINI, D.E.A. ANSELMO, and V.M. URBAN Dentistry, Ponta Grossa State University, Ponta Grossa, Brazil

#### **Cavex CA37, Cavex ColorChange, Cavex Orthotrace**

Dimensional stability of contemporary irreversible

hydrocolloids: Humidor versus wet tissue storage

Christina Erbe, DMD\*, Sabine Ruf, DMD\*\*, Bernd Wöstmann, DMD\*\* and Markus Balkenhol, DMD\*\*\*

\* Johannes Gutenberg University, Mainz, Germany

\*\* Justus Liebig University, Giessen, Germany

\*\*\* Saarland University, Homburg, Germany

#### **Cavex Alginate Mixer, Cavex CA37, Cavex Orthotrace and Cavex ImpreSafe**

The influence of mixing methods and disinfectant on the physical properties of alginate impression materials

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#### **Cavex ColorChange**

Quality of Gypsum Casts Comparing One-Stage and Two-Stage Pour Methods

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#### **Cavex ColorChange**

Influência da técnica de dupla moldagem em alginato na reprodutibilidade de arcos totalmente desdentados

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#### **Cavex ColorChange**

Wax Lining an Impression Tray, Will it Cause Distortion?

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