

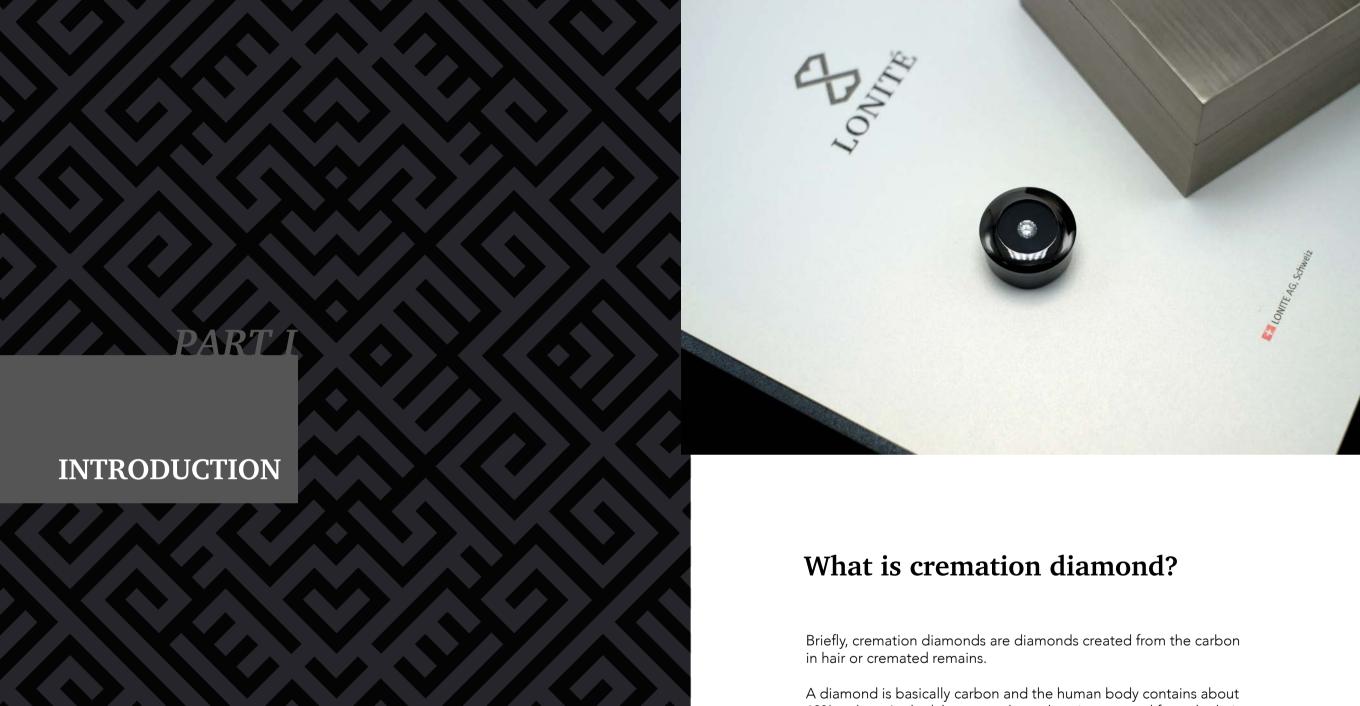
Hair and Ashes to Diamonds





# CONTENTS





18% carbon. In the laboratory, the carbon is extracted from the hair or ashes. Then, through a series of procedures such as purification and crystallization, a cremation diamond is cultured containing the elements from your loved one. Therefore, turning ashes into diamonds is a unique way to remember your story of love.

### **OUR COMPANY**



# **History**

The technology base of Lonité dates to the early 1950s, when scientists created the first man-made diamonds also known today as cremation diamonds using High-Pressure High-Temperature anvils.

The founders of Lonité are all leaders in their field of expertise. For years our founders have been involved in the jewellery trade, scientific research, the funeral business, as well as creating beautiful cremation diamonds.

At the very beginning only very small amber and blue cremation diamonds could be created. Today's advancements in technology have changed all that, meaning cremation diamonds from Lonité come in larger sizes and more beautiful colors.

# **Swiss Origin**



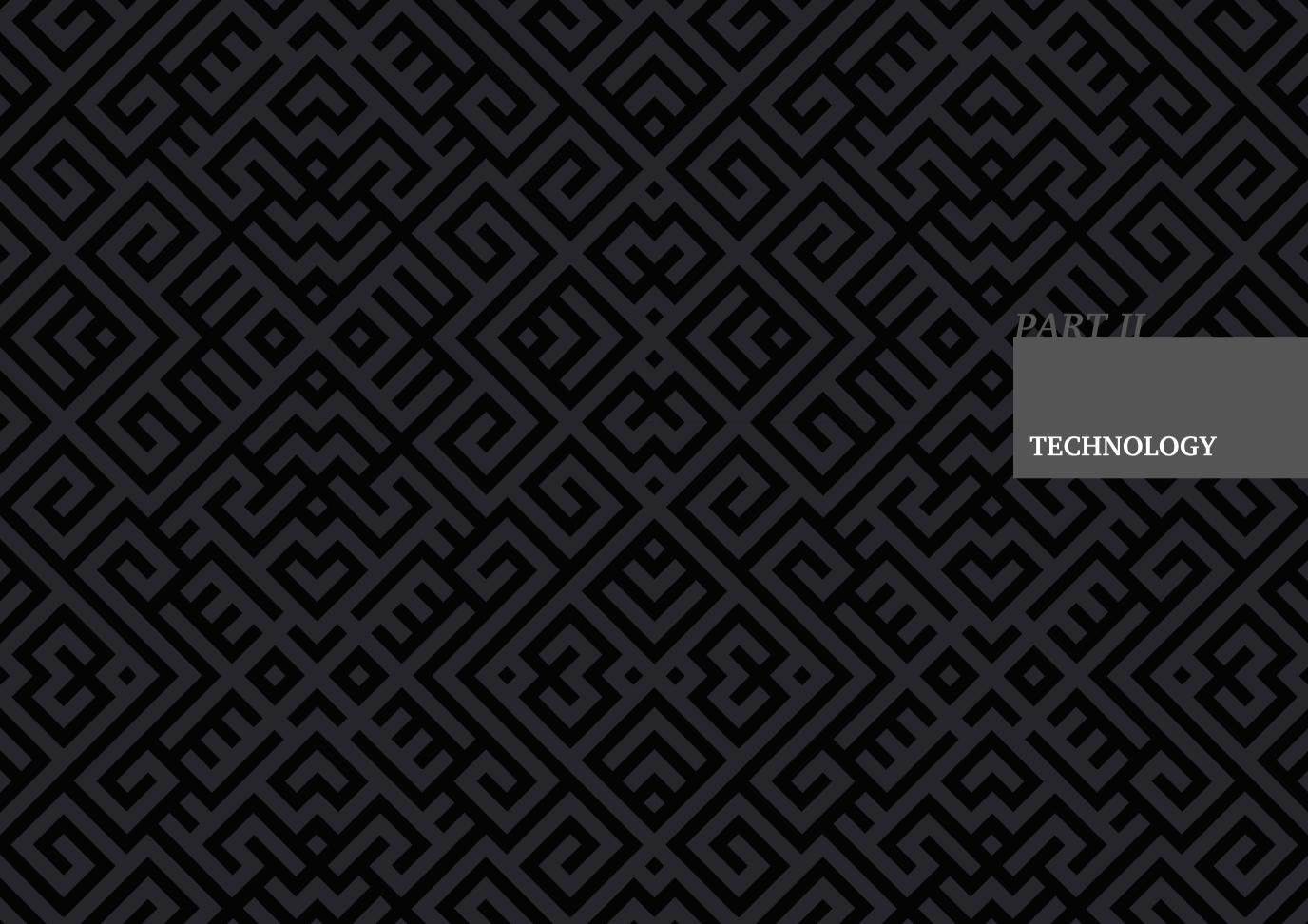
The company name 'Lonité' originates from 'Longévité' in French, which translates to 'to last in time'.

Our story began in a small town near the Alps, 25 minutes' train ride south of Zürich, Switzerland.

The technology LONITÉ dates to the early 1950s, when scientists created the first lab-grown diamonds also called today cremation diamonds, using High-Pressure High-Temperature anvils.



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## THE THEORY



#### **Re-create natural environments**

Natural diamond develops in an environment of extreme high-pressure and high-temperature (HPHT) deep underground.

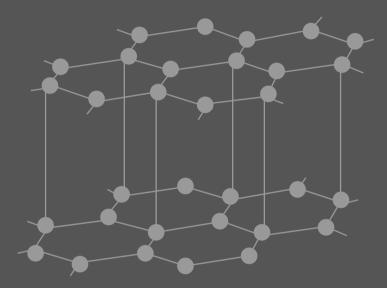
Similarly, precise creation and control of extremely high temperatures (3000K) and pressures (60000Bar) inside LONITÉ's laboratory recreate this natural environment and turn carbon from hair or ashes into diamonds.



Cremation diamonds are physically, chemically, and optically the same as all-natural diamonds. The relatives choose to wear memorial diamonds as a way of keeping their loved ones with them.

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## **TECHNICAL PROCEDURES**



# I. Carbon Purification 5000 minutes for a 4N Purity (99.99%).

Purification takes approximately 5000 minutes per cremation diamond.

Impurities are removed and reduced to 1/500 of the original carbon source materials in order to achieve 4N purity (99.99%).

Every small detail matters. LONITÉ insists on utilizing highly specialized state-of-the-art equipment, providing the greatest precision, quality and stability: surgical grade, accurate to 0.001(q).



# STEP 1 Material Examination

The carbon source is first and foremost analyzed to determine whether the ashes or hair contains enough carbon to be turned into a diamond. Because the carbon content of ashes differs from case to case, the total contained carbon may or may not be enough to successfully undergo LONITE's cremation diamond creation process. Thus, it is highly suggested to provide additional hair samples from the family as a supplement/backup plan.





## STEP 2 Planetary Nano-Crystallisation

In a special solvent, impurity remover is applied to remove unstable chemicals. The material (ashes or hair) to create cremation diamonds is then milled and stirred into a nano powder in a special chemical gas environment. The impurity remover attaches to impurities, which are then isolated from the materials by a high-speed centrifuge. Furthermore, special treatment and techniques are implemented so the remaining carbon is adequately preserved while other elements extracted are reduced to a fractional minimum.





Milling equipment similar to the movement of planetary systems, involving both rotation and revolution



#### STEP 3 Heated Vacuum Purification



reducing gas protecting the ashes or

hair from oxidation

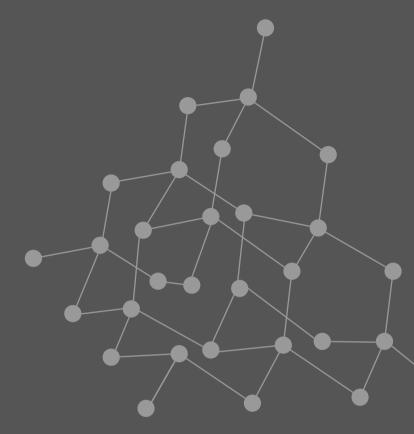
The ashes or hair to produce a cremation diamond is heated to an extreme temperature to get rid of further volatile impurities. During the process, oxygen is removed, and a certain inert gas mixed with protective reducing gas is injected to protect the ashes or hair from oxidation. Double handling is applied for chemical extraction. In some cases, high voltages may be applied via an energized airtight container to melt and evaporate chemicals in order to separate the solid carbon.



# STEP 4 Wet Chemical Carbon Purification

The ashes or hair is then placed in a safe and resistant cabinet, in a wet chemical environment, to enhance purity by removing heavy metals. Automatic and program-controlled temperatures, stirring speed, and chemical reagents amount ensures the carbon quality. At the end of this final purification step, the carbon purity reaches as high as 99.99%. If the purity levels have not reached 99.99% by this stage extra, customised purification steps are implemented to remove the remaining impurities.





# II. Diamond Crystallisation Purely Colourless™ at 0.5-1.0 mg/hour.

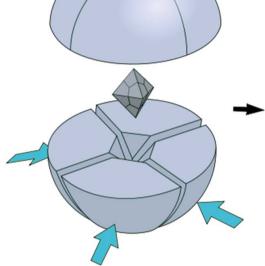
The crystallisation foundation is assembled with purified carbon. It's so pure and dense that even air atoms are excluded, such as H20 (water vapour) and O2 (oxygen).

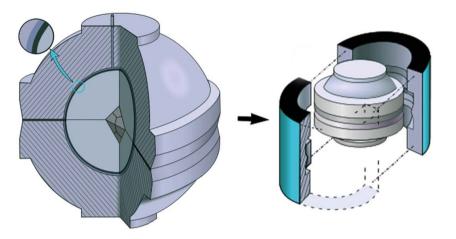
A typical Purely ColourlessTM cremation diamond grows slowly and steadily at 0.5-1.0 mg/hour (an extremely slowly speed). The slower speed, the better stability and better crystal structure. A 1 carat cremation diamond can take 750 hours to grow.



#### STEP 5 HPHT Crystallisation

The extracted pure carbon is converted into flake graphite and formed into a cylinder shape. Before the pure carbon cylinder is put into the diamond synthesis machine, the graphite is carefully wrapped and prepared by protective and corbelled materials for the final technical steps that require functions such as pressure and temperature measurement, insulation and protection. The transformation into a cremation diamond takes several days to several months depending on the size and colour of the cremation diamond ordered.





High-Pressure High-Temperature (HPHT) presses where carbon atoms from hair/ashes are transformed into a genuine diamond



# STEP 6 Diamond Polishing

Unlike mined diamonds, rough cremation diamonds are usually mixed with graphite and other materials especially on the diamond's surface. The rough diamond is carefully polished by experts who deal solely with grown diamonds. A rough un-cut cremation diamond can be provided if requested. However, this rough diamond should NOT be cut at any time after it is delivered because inexperienced diamond cutters without specialized cutting skills are highly likely to break the ashes to diamond.















# **Certificate of Authenticity**

Cremation diamonds are genuine diamonds that can be certified by all worldwide recognized gemology institutes.

Certificates of authenticity for LONITÉ memorial diamonds can be issued from the Gemological Institute of America (GIA), or the International Gemological Institute (IGI), which proves that all LONITÉ cremation diamonds are genuine diamonds and certified to be lab-made (non-mined).

After the cremation diamond growing process is complete, a third-party certification from GIA or IGI can be ordered to show the authenticity of your memorial diamond and most importantly, the 4Cs grading of the origin of the cremation diamond – LONITÉ's laboratory.







I. Maximised Use of Ashes / Hair.

# Up to 99.99%.

It would be incorrect to say that "a diamond is made 100% from ashes". To create a cremation diamond, a microscopic diamond is required as the seed crystal, from which the new diamond will evolve. However, LONITÉ can produce cremation diamonds that comprise up to 99.99% carbon from human ashes or hair.



II. Natural Diamond Seed.

#### No CVDs.

A diamond seed is the microscopic diamond required as the foundation from which the new diamond will evolve (the seed crystal). Carbon atoms (from ashes/hair) attach themselves, under immense pressure, and begin to crystallise.

For the diamond seed, LONITÉ only ever uses single-crystal natural diamonds from the top 0.1% of quality natural diamonds instead of CVD (Chemical Vapour Deposition) diamonds.



III. Type IIb:

# the Top 0.1%.

LONITÉ Blue and Purely Colourless™ cremation diamonds distinguish themselves as type IIb diamonds. When examined with an infrared spectrometer, these ashes to diamonds show remarkable absorption on the red side of the visible spectrum. LONITÉ type IIb cremation diamonds are visually indistinguishable from the rarest and most valuable 0.1% of all-natural diamonds, but with an extremely unique origin - from your loved one.



IV. No Heavy Metals (0.00%).

#### 100% Safe.

LONITÉ cremation diamonds are free of lead (Pb), mercury (Hg), bismuth (Bi) and sodium bromide (NaBr). LONITE uses natural and medical-safe agents to clean ashes. No heavy metals (0.00%) are adopted in LONITÉ's process.



V. No Artificial Colourings (0.00%).

#### Natural Colours.

LONITÉ creates coloured cremation diamonds by giving them the environment to grow, instead of mixing any artificial colourings onto the diamonds. The synthesis environment only gives a colour range. The final colour depends on its origin. Each diamond has a unique colour. No two cremation diamonds are alike.



VI. 4N Purity.

### The Essential 99.99%

LONITÉ cremation diamonds contains at least 99.99% purity of carbon. Impurity leads to diamond flaws. It cracks the diamond crystal sometimes. High Pressure High Temperature (HPHT) diamond synthesis can only be effectively achieved with the purest forms of carbon. All other trace elements must be removed.

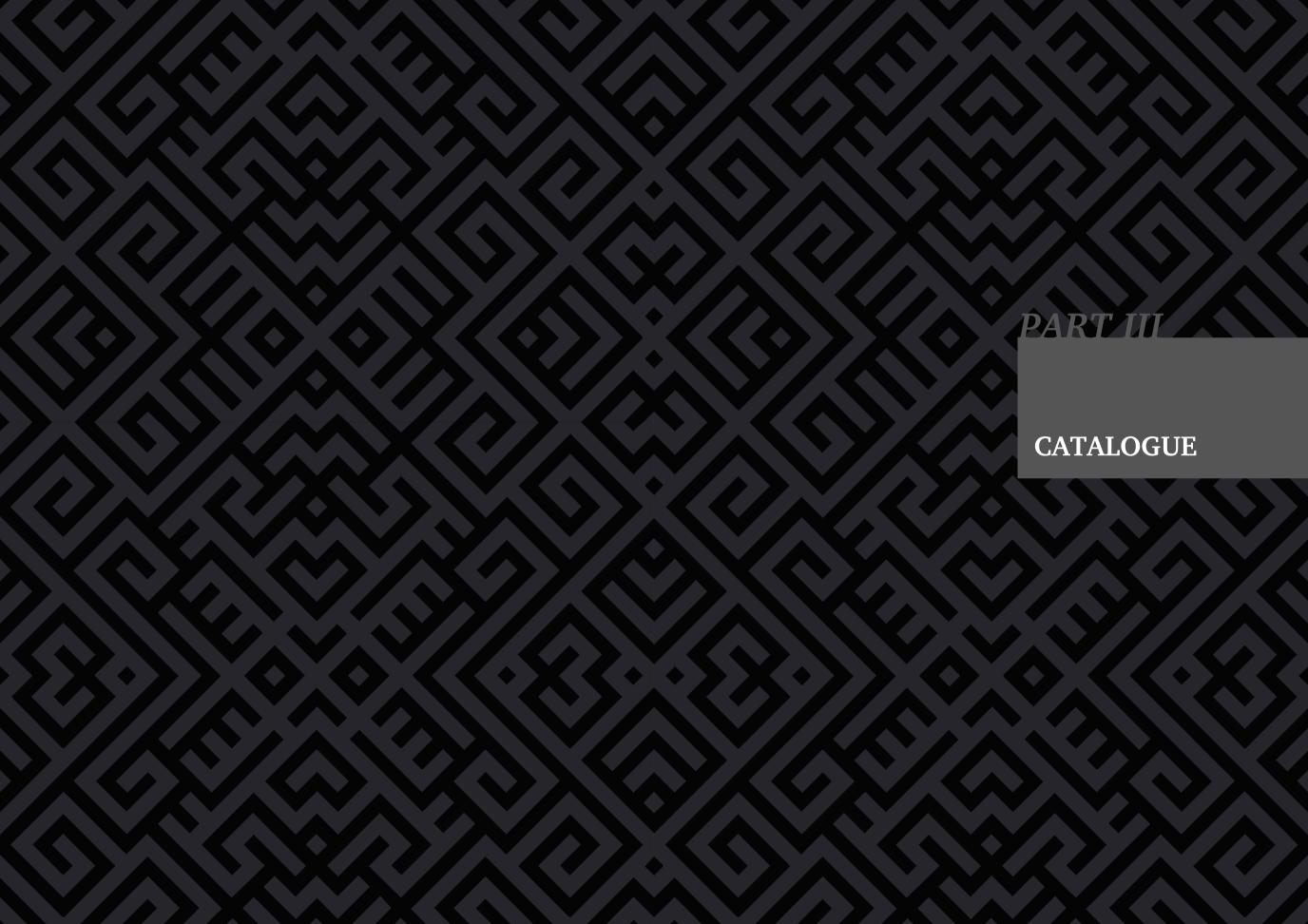


VII. 18% and 3% of Human Body.

## Positive Life Elements.

Carbon [C] accounts for 18% of the human body; nitrogen [N] accounts for 3%. Both are essential for proteins (with amino acids) and DNA. The carbon purification system can leave either nitrogen or boron (related with metabolism of calcium) within the growing foundation, leading to an amber or blue colour. The cremation diamond grows into Purely Colourless™ by keeping carbon and removing all other elements.

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THE DIAMOND



# **Purely Colourless** TM

The colourless cremation diamond has the highest purity (4N purity - 99.99%) of carbon, free from any other elements or impurities. Moreover, the production procedure is the most technical in order to create a purely colourless cremation diamond, which costs the highest and has the longest growing period.

Time and Cost  $\heartsuit \heartsuit \heartsuit \diamondsuit \diamondsuit$  Production Complexity  $\triangle \triangle \triangle \triangle \triangle$ 

26 | Diamond | 27



#### Naturally Amber ™

The amber cremation diamond is the most basic colour option. It grows under basic creation procedure with no added microelements or special technical treatments. The colour naturally results from the nitrogen element in the ashes. If you wish the colour of your beloved diamond to remain natural, choose the amber colour.

Time and Cost  $\heartsuit \heartsuit \heartsuit \heartsuit \diamondsuit$  Production Complexity  $\triangle \triangle \triangle \triangle \triangle$ 



#### Red

Red cremation diamonds develop its beautiful colour through further processing of amber diamonds. By applying the light of high-energy electrons with an electronic emitter, nitrogen-vacancy colour centres will form inside the diamond and make the cremation diamond red.

Time and Cost  $\heartsuit \heartsuit \heartsuit \heartsuit$  Production Complexity  $\triangle \triangle \triangle \triangle \triangle$ 

#### **Greenish Yellow**

The greenish yellow cremation diamond needs an additional HPHT treatment cycle to modify the crystal-structure and colour-centres of the diamond. As a result, the greenish yellow colour takes longer to process and has a relatively higher price.

Time and Cost  $\heartsuit \heartsuit \heartsuit \heartsuit \diamondsuit$  Production Complexity  $\triangle \triangle \triangle \triangle \triangle \triangle$ 

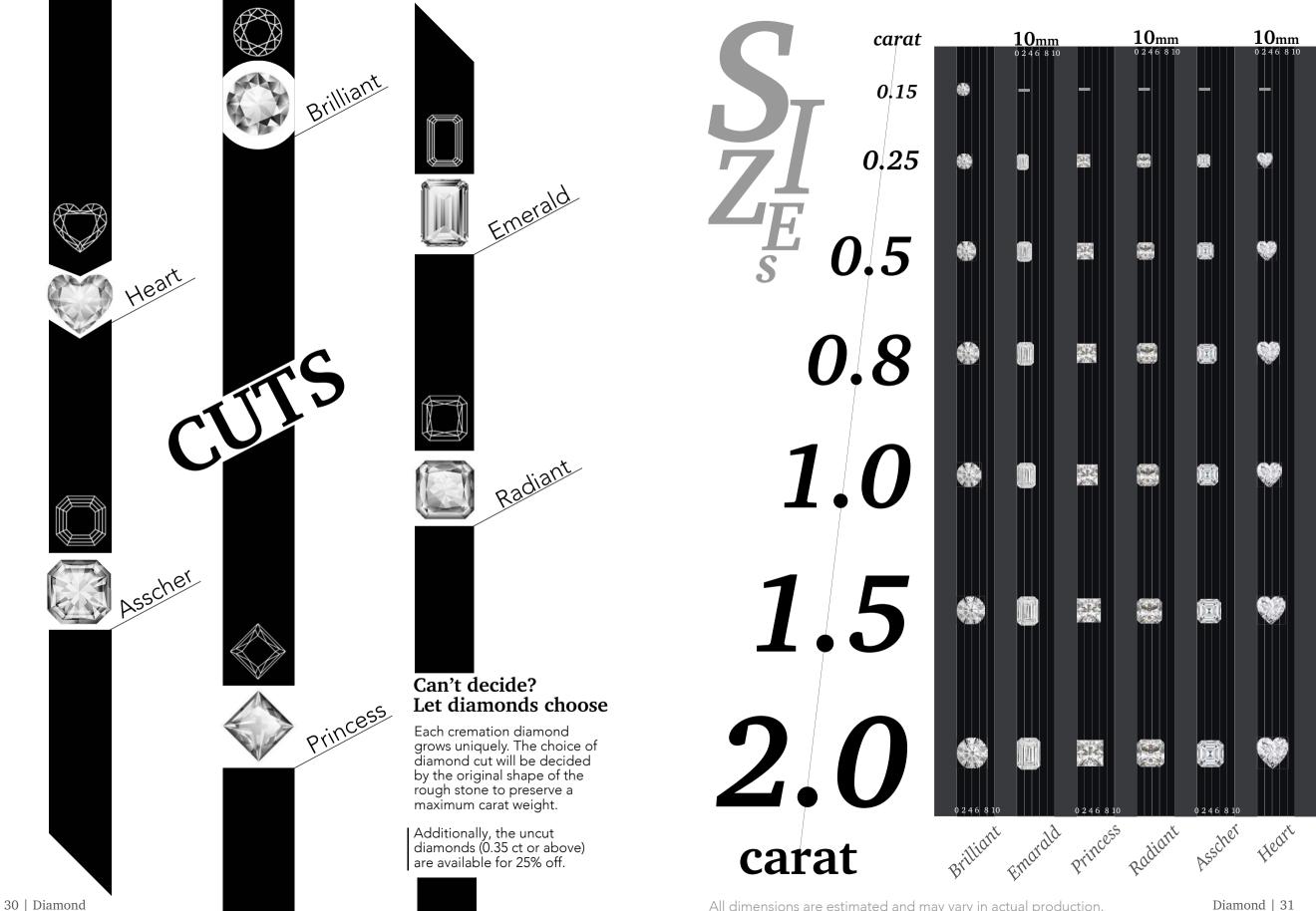
#### Blue

The blue cremation diamond looks regal and peaceful. LONITÉ has advanced technology to determine the atom density inside cremation diamonds. Therefore, the colour of LONITÉ blue diamonds is very stable. The crystal growth is faster and easier with boron (B) atoms inside the carbon, which makes the growing speed quicker and the cost lower compared to colourless ashes into diamonds.

Time and Cost  $\heartsuit \heartsuit \heartsuit \heartsuit \diamondsuit$  Production Complexity  $\triangle \triangle \triangle \triangle \diamondsuit$ 



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# **HEART**

Sometimes the heart sees what is invisible to the eye. Heart shaped cremation jewellery and diamonds are a brilliant way to remember someone in your heart. It is a unique and unmistakable symbol of love.











# **MOMENTO**

There is always a special momento that you cherish with your loved one. Engrave your most special day in this classic Roman numeral cremation jewellery ring.









# **BONDING**

Spending quality time is to share your souls. For people who share the similarities and accept the differences, this double circle cremation jewellery pendant represents the unbreakable union of two loved ones.

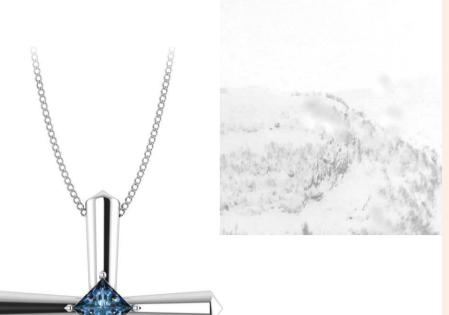


# **SHINE**

Let your inward beauty radiant to the outside. With customizable gem colour, these cremation jewellery earrings are a subtle and delicate way to let your personality shine in all its glory.

36 | Jewellery | 37







# **FAITH**

We all need something to hold on to. Let this serve as a courage to believe in ourselves and others. This longtime customer favorite is an expression of faith and devotion. The cremation jewellery cross endows you with the strength from the peaceful heaven.



# **ROSE**

Love planted a rose, and the world turned sweet. Your loved one lives on with you in this rose gold cremation jewellery pendant allowing you to grow beyond the loss peacefully.







# **OMPHALOS**

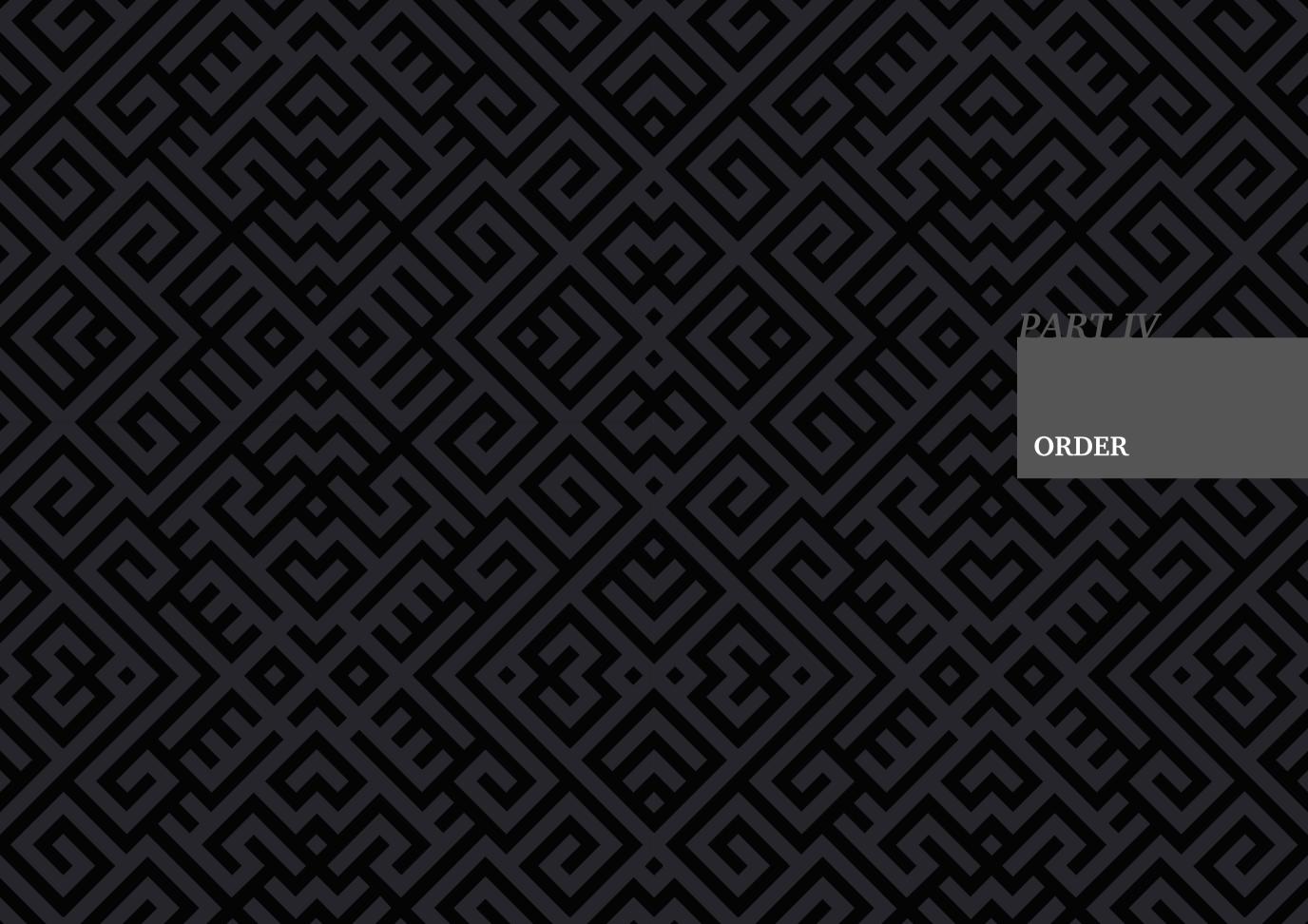
I love you because the universe helps me find you. These cremation jewellery earrings are modern and chic and their design encircles the diamond within a thin metal rim. Bezel setting is the most secure fastener for the stones protecting the round cremation diamond better than other types.







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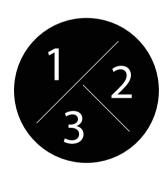


# **ORDER PROCEDURE**

#### **Order Submission**

Contact us for the latest pricing and order form. Print and fill in the order form. After your order is confirmed, you will receive the following:

- An order ID for tracking and identification.
- A free ashes submission kit with zipped containers.



#### **Ashes Submission**

Please prepare and seal the required amount of materials according to the ashes submission guide. Our local customer service will bring you the detailed information to send the ashes.

The required amount of hair/ashes regardless of the diamond size:

Cremation ashes
Cremated bones
Hair
8 oz / 200 g
10 oz / 300 g
0.4 oz / 10 g

#### Payment

50% deposit is to be settled when the order is confirmed. The other half will be due before the diamond delivery.

Payment is accepted through:

- cheque (issued from a Swiss bank)
- wire transfer

# PERSONALISED SERVICE

## **Visible Process**

## Photos of the intermediate steps

Sending the ashes of your loved one to Switzerland can be an emotional experience. As we want you to feel as involved and connected as possible, we are able to send you photographs of the creation of your cremation diamond.

#### **ID Tracking**

You will have a unique code for LONITÉ's ID tracking QC, enabling you to see exactly which stage in the process your cremation diamond has reached, at any time.

# **Laser Inscription**



You can also name your cremation diamond. After your cremation diamond has been created, we are able to personalize it with words or a phrase engraved onto the diamond girdle.

Personalised Service | 45

THE HUFFINGTON POST

"It's the stories of LONITÉ's customers that moved me the most"

International **Business** Times.

"LONITÉ, the premium memorial diamond producer"

"LONITÉ, a company specialises in turning the dead into diamonds."

**BuzzFeed** 

"The Lonité memorial diamond is a warm tribute to your precious loved one"

THE CHRISTIAN POST

"LONITE AG is the pioneer in this (memorial diamond) technology"

"LONITÉ AG, a world leader in memorial diamond technology"



"Lonité, a Swiss company that specializes in memorial diamond technology"



ground report

**TECHINASIA** 

"Each diamond comes out unique"



46 | Media Highlights

# **CONTACT US**



ing diamond of their loved ones to keep close to them

Damien Vega

Our clients put a great amount of trust in us for handling their loved ones' remains. That is why our attention is multiplied in everything we do during the process. Email Web Address info@lonite.com www.lonite.com Bahnhofstrasse 10, CH 8001 - Zürich



always.

#### Josefin Gericke

I feel we're an important part of their healing process. I lost a beloved family member and if I knew that a memorial diamond was possible, I would have ordered one. Maybe one day I will be a diamond too.

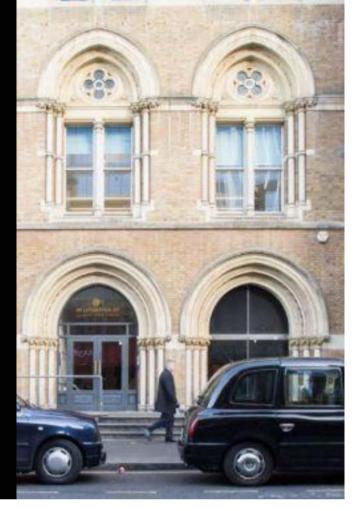


Christel Groenewald

I am passionate with helping people in need. I am touched deeply by stories of their loved ones.







# ASHES INTO DIAMONDS UK

LONITÉ UK is located in the dynamic capital city of London on 50 Liver-pool Street. Customers from London and the whole UK can always call us if they have any questions about memorial diamonds. Our UK representant will guide you and accompany you through the process and help you book an appointment.

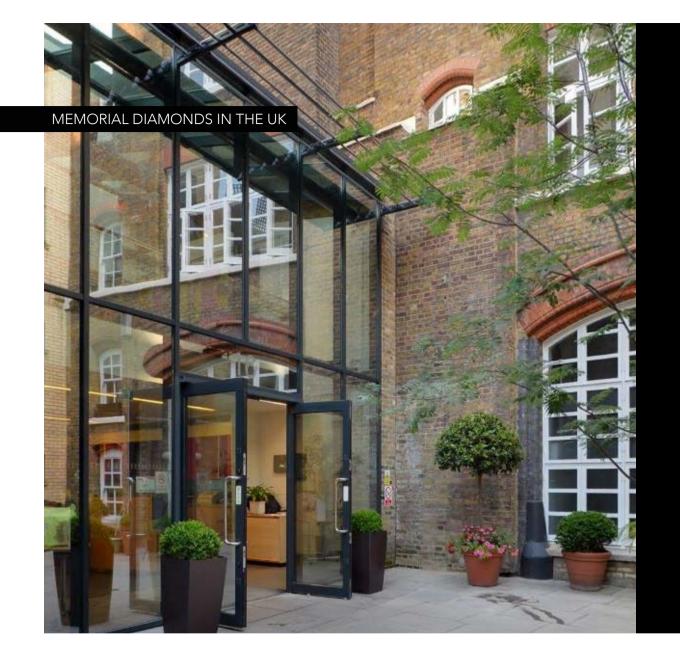
Phone: (020) 3807 5649 Email: service@lonite.co.uk



To order a memorial diamond from LONITÉ, here are the amounts of cremation ashes or bones or hair you will need to provide us with regardless of ashes into diamond size selected:

Cremation Ashes 200 grams
Cremation Bones 300 grams
Hair 10 grams

Customers from the UK will be provided with an ashes or hair submission kit to send us the amount needed in the making of their memorial diamonds.



#### MEMORIAL DIAMONDS AND CREMATION JEWELLERY

LONITÉ UK has at heart to make your tribute experience as unique as possible with our beautiful ashes into diamonds.

If you are a customer from the UK, you can approach our UK Customer Representative or visit our office in London where we can help you customize your own cremation jewellery as a meaningful keepsake to your memorial diamond.

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# CREMATION DIAMONDS IN THE USA AND CANADA



LONITÉ USA is located in the famous US/Canadian border city of Buffalo, New York State, USA near the stunning Niagara Falls. Customers from the US, Canada and Mexico can contact us for any questions they may have about the cremation diamonds process and our North American Representatives will guide them and accompany them in all they need to know.

Phone: 888-215-2217 Email: service@lonite.com



# CREMATION DIAMONDS & CREMATION JEWELLERY

LONITÉ has at heart to make your tribute experience as unique as possible with our beautiful cremation diamonds.

If you are a customer from the US, Canada or Mexico, you can approach our US Customer Representative or visit our office in Buffalo, NY where we can help you customize your own cremation jewellery as a meaningful keepsake to your cremation diamond.

#### MEMORIAL DIAMONDS ASHES AND HAIR SUBMISSION

To order a cremation diamond from LONITÉ, here are the amounts of cremation ashes or bones or hair you will need to provide us with regardless of the cremation diamond size selected:

Cremation Ashes 8 ounces (200 grams)
Cremation Bones 10 ounces (300 grams)
Hair 0.4 ounces (10 grams)

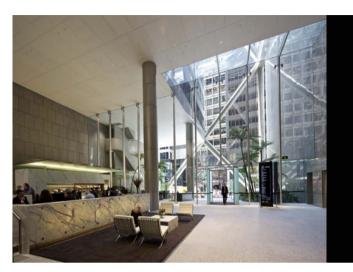
Customers from the US, Canada and Mexico will be provided with an ashes or hair submission kit to send us the amount needed in the making of their cremation diamonds.

### ASHES INTO DIAMONDS AUSTRALIA



LONITÉ Australia is located in the beautiful and sunny capital city of Sydney, downtown. Customers from Australia and the whole Asia Pacific region can always give us a call if they have any questions in mind about cremation diamonds, the production, the prices and the ordering process. Our Australian representative will guide you and accompany you in booking an appointment with us.

Phone: (02) 8317 3356 Email: info@lonite.com.au



Turning ashes into diamonds in Australia

#### CREMATION DIAMONDS ASHES AND HAIR SUBMISSION

To order a cremation diamond from LONITÉ, here are the amounts of cremation ashes or bones or hair you will need to provide us with regardless of ashes into diamond size selected:

Cremation Ashes 200 grams
Cremation Bones 300 grams
Hair 10 grams

Customers from Australia and the whole Asia Pacific Region will be provided with an ashes or hair submission kit to send us the amount needed in the making of their cremation diamonds.

#### ASHES TO DIAMONDS AND CREMATION JEWELLERY

LONITÉ Australia has at heart to make your tribute experience as unique as possible with our beautiful ashes to diamonds.

If you are a customer from Australia or the Asia Pacific region, you can approach our Australia Customer Representative or visit our office in Sydney where we can help you customize your own cremation jewellery as a meaningful keepsake to your cremation diamond.

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LONITÉ AG

