

MILLSTONE DENTAL

# PRODUCT & MATERIAL GUIDE



# ABOUT UPCERA

## 2003 UPCERA Founded

Open the era of zirconia sleeve optical fibre connector.

## 2008 Entered the Dental Industry

The first China dental zirconia manufacturer certified by ISO 13485/CE.

## 2009 FDA Approved

The first China dental zirconia manufacturer certified by FDA.

## 2010 UPCERA's Science Park Built

Independently researched and developed the first domestic CAD/CAM milling machine.

## 2011 ST Pre-shaded Zirconia Launched

Promoted the first full contour solution in China.

## 2012 Upzir Brand Launched

Established the brand of zirconia for functional all-ceramic restoration.

## 2013 Participated in Drafting and for the Mulating National "Dental Ceramic Material" Standard

Open the era of zirconia sleeve optical fibre connector.

## 2014 Lithium Disilicate Launched

The first manufacturer of lithium disilicate glass ceramic in China.

## 2015 Multi-layered and Anterior Restoration Material Launched

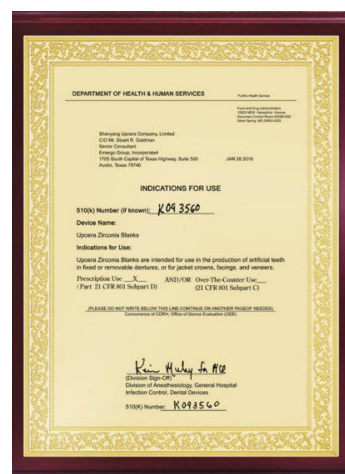
Open the era of zirconia sleeve optical fibre connector.

## 2016 Hyramic Launched

World's first manufacturer of 3 layer hybrid ceramics.

## 2018 Became Subsidiary of Public Company-Sinocera

Realised full dental supply chain from raw materials.



# ABOUT MILLSTONE

Founded in 2015, Millstone Dental Design is a comprehensive dental design and milling centre offering CAD CAM solutions to the dental industry.

Our belief is that technology will compliment conventional methods of dental restoration manufacture. Millstone aims to continue providing the technology and design to help laboratories expand their in-house capacity with 3Shape scanners, Roland mills, and the highest quality materials – as well as reducing financial outlays – Millstone is more than a dental outsourcing centre; It's your laboratory's technology partner.

Our software is the perfect foundation for the fusion of technology, artistry, efficiency and communication; creating the freedom to design everything from simple crowns to complex surgical implants. We make use of 3Shape's proven technologies which are successfully servicing thousands of labs worldwide. Looking ahead, digital scanning impressions are expected to become the standard for 3D capture, which is why we make use of new groundbreaking technologies to provide revolutionary performance and productivity. 3Shape's Dental System™ brings together 3D scanning, CAD modelling, order management and communication tools, allowing us to combine all types of patient images such as surface scans, patient photos, intraoral images and more.

At the heart of Millstone is our dedication to our clients. We are committed to providing cost-effective dental outsourcing. Millstone prioritises communication and consideration so that your laboratory's unique needs can be met.





# Zirconia

## ST MULTILAYER

Veneers	✓	Bridge posterior tooth (3 units)	✓	Reduced crown posterior tooth	✓
Inlays/onlays	✓	Full contour bridge (4 units)	✓	Reduced bridge posterior tooth (3 units)	✓
Full contour crown anterior tooth	✓	Full contour bridge (over 4 units)	✓	Reduced bridge posterior tooth (4 units)	✓
Bridge anterior tooth (3 units)	✓	Reduced crown anterior tooth	✓	Reduced bridge posterior tooth (over 4 units)	✓
Full contour crown posterior tooth	✓	Reduced bridge anterior tooth (3 units)	✓	Cantilever bridge	✓

### Shades\*

A1; A2; A3; A3.5; B1; B2; C1; C2; C3; D2; D3;

\*Custom shades available. More information on request.

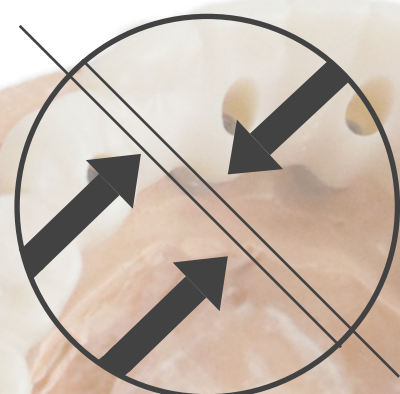
### Chemical Composition

ZrO <sub>2</sub> +HfO <sub>2</sub> +Y <sub>2</sub> O <sub>3</sub>	>97.7%
Y <sub>2</sub> O <sub>3</sub>	4.4%-5.5%
Al <sub>2</sub> O <sub>3</sub>	<0.5%
Fe <sub>2</sub> O <sub>3</sub>	0.3%
Er <sub>2</sub> O <sub>3</sub>	<1.0%
Other oxides	<1.2%

### Physical Characteristics

Density after sintering	6.08±0.01g/cm <sup>3</sup>
CTE(25-500°C)	(10.5±1.0)×10 <sup>-6</sup> K <sup>-1</sup>
Accelerated raging surface monoclinic phase content	<15%
Chemical solubility after sintering	<100μ/cm <sup>3</sup>
Radioactivity	<0.1Bq/g
Sintering temperate	1400-1580°C (recommended: 1530°C)

### Strength



**1100MPa**

# Explore series

# FUNCTIONAL EXPLORE

Veneers	✓	Bridge posterior tooth (3 units)	✓	Reduced crown posterior tooth	✓
Inlays/onlays	✓	Full contour bridge (4 units)	✓	Reduced bridge posterior tooth (3 units)	✓
Full contour crown anterior tooth	✓	Full contour bridge (over 4 units)	✓	Reduced bridge posterior tooth (4 units)	✓
Bridge anterior tooth (3 units)	✓	Reduced crown anterior tooth	✓	Reduced bridge posterior tooth (over 4 units)	✓
Full contour crown posterior tooth	✓	Reduced bridge anterior tooth (3 units)	✓	Cantilever bridge	✓

## Shades\*

A1; A2; A3; A3.5; B1; B2; C1; C2; C3; D3

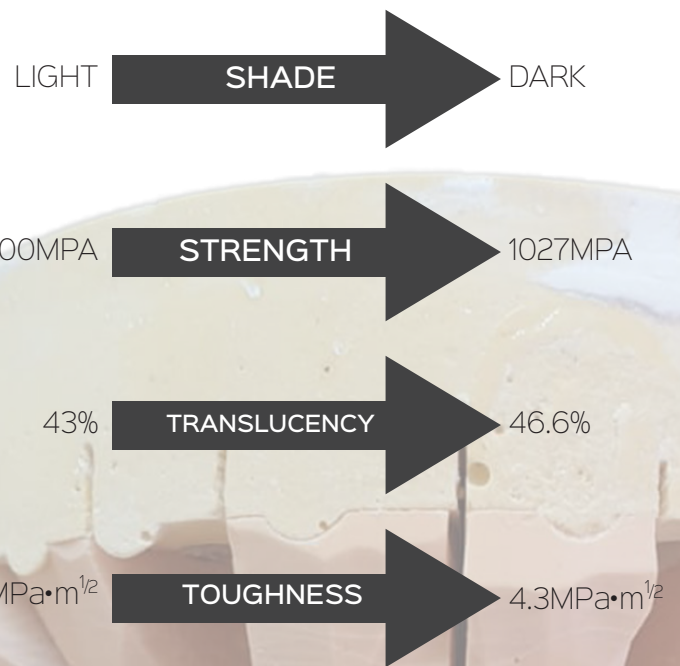
\*Custom shades available.

## Chemical Composition

ZrO <sub>2</sub> +HfO <sub>2</sub> +Y <sub>2</sub> O <sub>3</sub>	>96.5%
Y <sub>2</sub> O <sub>3</sub>	5.8%-9,7%
Al <sub>2</sub> O <sub>3</sub>	<0.5%
Fe <sub>2</sub> O <sub>3</sub>	<0.5%
Er <sub>2</sub> O <sub>3</sub>	<2.0%
Other oxides	<0.5%

## Physical Characteristics

Density after sintering	≥6.0g/cm <sup>3</sup>
CTE(25-500°C)	(10.5±1.0)×10 <sup>-6</sup> K <sup>-1</sup>
Accelerated aging surface monoclinic phase content	<5%
Chemical solubility after sintering	<100μ/cm <sup>3</sup>
Radioactivity	<0.1Bq/g
Sintering temperate	1430-1550°C (recommended: 1480°C)



## Explore series

# ESTHETIC EXPLORE

Veneers	✓	Bridge posterior tooth (3 units)	✓	Reduced crown posterior tooth	✓
Inlays/onlays	✓	Full contour bridge (4 units)	✓	Reduced bridge posterior tooth (3 units)	✓
Full contour crown anterior tooth	✓	Full contour bridge (over 4 units)	X	Reduced bridge posterior tooth (4 units)	✓
Bridge anterior tooth (3 units)	✓	Reduced crown anterior tooth	✓	Reduced bridge posterior tooth (over 4 units)	X
Full contour crown posterior tooth	✓	Reduced bridge anterior tooth (3 units)	✓	Cantilever bridge	X

### Shades

BL1, BL2

### Chemical Composition

ZrO <sub>2</sub> +HfO <sub>2</sub> +Y <sub>2</sub> O <sub>3</sub>	>96.5%
Y <sub>2</sub> O <sub>3</sub>	5.8%-9.7%
Al <sub>2</sub> O <sub>3</sub>	<0.5%
Fe <sub>2</sub> O <sub>3</sub>	<0.5%
Er <sub>2</sub> O <sub>3</sub>	<2.0%
Other oxides	<0.5%

### Physical Characteristics

Density after sintering	≥6.0g/cm <sup>3</sup>
CTE(25-500°C)	(10.5±1.0)×10 <sup>-6</sup> K <sup>-1</sup>
Accelerated raging surface monoclinic phase content	<5%
Chemical solubility after sintering	<100μ/cm <sup>3</sup>
Radioactivity	<0.1Bq/g
Sintering temperate	1430-1550°C (recommended: 1480°C)

LIGHT **SHADE** → DARK

1000MPA **STRENGTH** → 727MPA

47% **TRANSLUCENCY** → 48.8%

4.3MPa·m<sup>1/2</sup> **TOUGHNESS** → 3.5MPa·m<sup>1/2</sup>

# Thermoplastic resin

## ACETAL

Removal partial denture frameworks	✓	Cosmetic smile enhancers	✓	Provisional crowns and bridges	✓
------------------------------------	---	--------------------------	---	--------------------------------	---

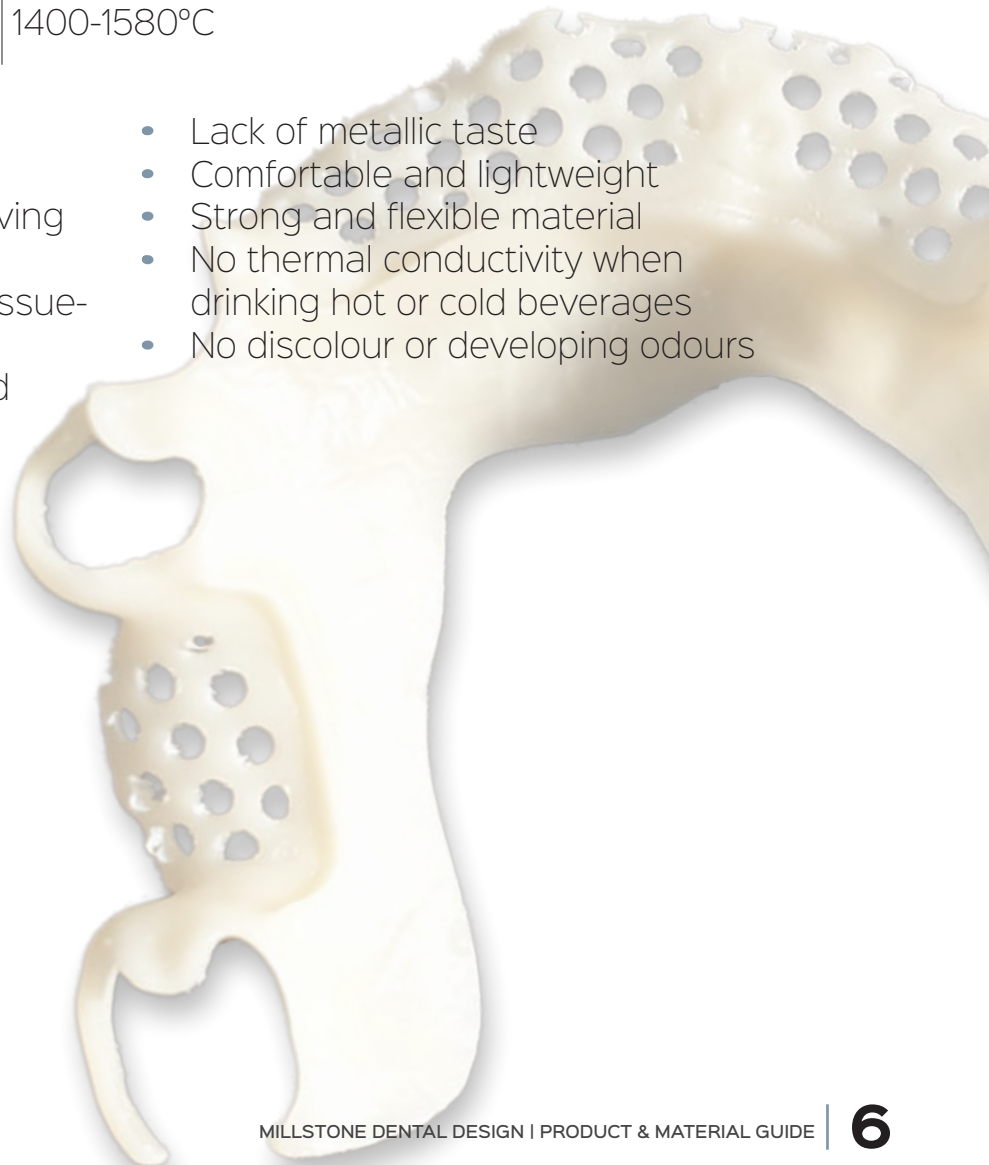
### Shades

A1; A2; A3; A3.5; Bleach; Pink

### Physical Characteristics

Density	1.41g/cm <sup>3</sup>
Tensile strength (new)	61.00Mpa
Tensile Modulus	2820.00MPa
Flexural Strength (new)	90.00MPa
Flexural Modulus	2620.00MPa
Moisture Absorption	<0.1Bq/g
Izod Impact, Notched	1400-1580°C

- Hypoallergenic and more hygienic
- Ease of inserting and removing appliance
- Esthetic value of tooth or tissue-colour
- Complete digital design and milling workflow
- Absorbs virtually no water
- Lack of metallic taste
- Comfortable and lightweight
- Strong and flexible material
- No thermal conductivity when drinking hot or cold beverages
- No discolour or developing odours





# Biocompatible Polymer Material

## PMMA

Veneers	X	Bridge posterior tooth (3 units)	✓	Reduced crown posterior tooth	✓
Inlays/onlays	✓	Full contour bridge (4 units)	✓	Reduced bridge posterior tooth (3 units)	✓
Full contour crown anterior tooth	✓	Full contour bridge (over 4 units)	✓	Reduced bridge posterior tooth (4 units)	✓
Bridge anterior tooth (3 units)	✓	Reduced crown anterior tooth	✓	Reduced bridge posterior tooth (over 4 units)	✓
Full contour crown posterior tooth	✓	Reduced bridge anterior tooth (3 units)	✓	Cantilever bridge	✓

### Available shades\*

S (Monochrome) | A1; A2; A3; A3.5; B1

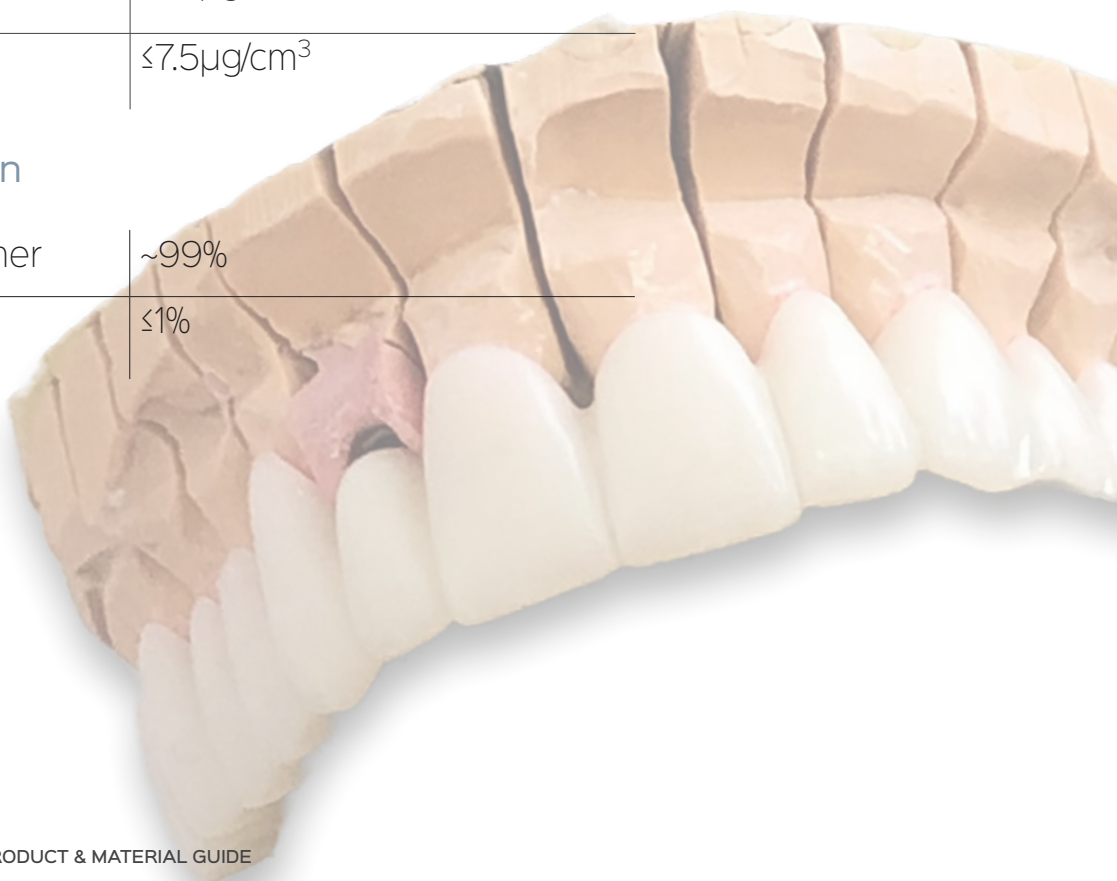
\*Multilayer shades available on request.

### Technical Parameter

Flexural strength	≥100MPa
Water absorption value	≤40μg/cm <sup>3</sup>
Dissolved value	≤7.5μg/cm <sup>3</sup>

### Chemical Composition

Methacrylic acid polymer	~99%
Pigment	≤1%





# WAX

Veneers	✓	Bridge posterior tooth (3 units)	✓	Reduced crown posterior tooth	✓
Inlays/onlays	✓	Full contour bridge (4 units)	✓	Reduced bridge posterior tooth (3 units)	✓
Full contour crown anterior tooth	✓	Full contour bridge (over 4 units)	✓	Reduced bridge posterior tooth (4 units)	✓
Bridge anterior tooth (3 units)	✓	Reduced crown anterior tooth	✓	Reduced bridge posterior tooth (over 4 units)	✓
Full contour crown posterior tooth	✓	Reduced bridge anterior tooth (3 units)	✓	Cantilever bridge	✓

## Shades

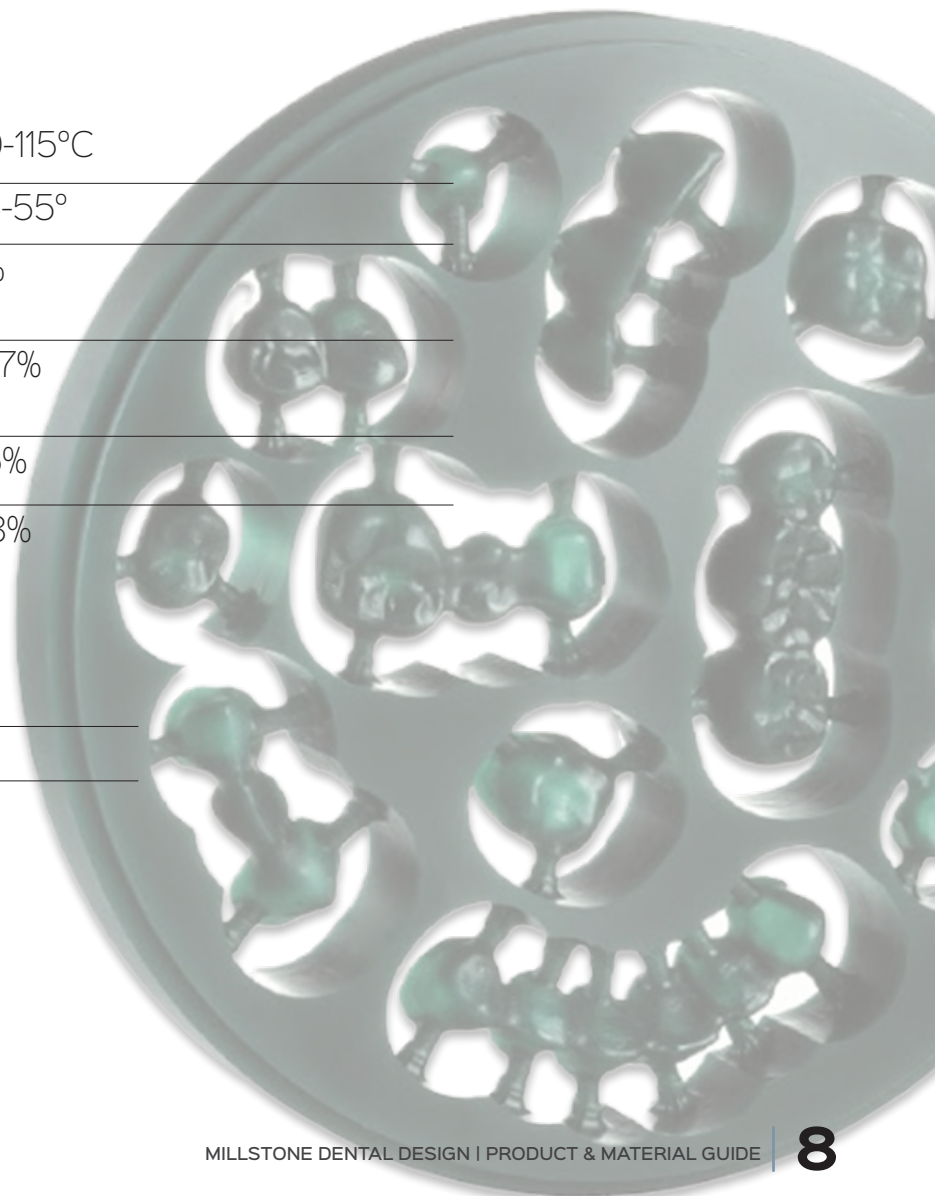
Blue; white; grey; beige

## Technical parameter

Melting point	110-115°C
Hardness	45-55°
Coefficient of thermal expansion	5%
Chemical solubility after sintering	12.7%
Radioactivity	85%
Sintering temperate	2.3%

## Chemical Composition

Polyethylene wax	12.7%
Synthetic wax	85%
Others	2.3%



# TERMS AND CONDITIONS

## 1. Guarantees

Millstone Dental guarantees that products that leave our premises are in line with correct manufacturing specification and industry standard.

- 1.1. All remakes will be judged individually depending on the circumstances. A remake fee might be incurred.
- 1.2. Products deemed defective due to Millstone's own actions will be remade free of charge.
- 1.3. Products that have been damaged/broken by a third party (technician, dentist, patient, etc.) are not guaranteed.
- 1.4. Products that do not qualify for a guarantee will carry a NO GUARANTEE warning on the job-specific invoice. This will be discussed with clients before the work leaves Millstone's premises.
  - 1.4.1. It is the client's responsibility to check the job invoices.

## 1.5. Model work

- 1.5.1. Millstone's products are manufactured based on the models/scans/designs provided.
- 1.5.2. It is the client's responsibility to ensure all cases are correctly articulated and ensure margins are clear and visible.
- 1.5.3. Millstone cannot be held liable for products defective due to incorrect articulation, unclear margins, poor models/scans/designs or incorrect shade provided.
- 1.5.4. Tissue pressure will be fitted onto what is provided.

## 2. Price list

- 2.1. Prices are subject to increases at the discretion of Millstone. Any increases will be communicated in a timely manner.
- 2.2. Restoration on an analogue will be charged as implant.

## 3. Turnaround Time

- 3.1. Our standard turnaround time is two (2) working days.
- 3.2. Own designs sent before 15:00 can be delivered the following day.
- 3.3. Own designs sent after 15:00 will be delivered in Millstone's usual turnaround time.
- 3.4. Large cases (i.e., work with multiple units) require more time to be fulfilled therefore it is the client's responsibility to ensure that they have afforded Millstone enough time for the job to be completed. Please confirm with Millstone for these specific cases.
- 3.5. Rush work can be accommodated, please arrange prior to its delivery at Millstone's premises.

## 4. Couriers

- 4.1. Millstone can book collections and deliveries on behalf of clients; this fee will be reflected on job-specific invoice(s).
- 4.2. Fees are calculated by courier company and are based on regional proximity; Millstone has no control over courier fee increases and/or changes.

## 5. Collections

- 5.1. For local work, please arrange collection with Millstone as early as possible in the day. This will ensure that our driver is able to collect your work and that Millstone can complete it in the necessary timeframe.

## 6. Accounts

- 6.1. We ask our customers to settle all accounts within 30 days of receiving the account statement.
- 6.2. It is the client's responsibility to ensure that all invoices they receive are correct. While we do our best to ensure there are not errors, the accounts statement will be treated as the final statement.

Millstone Dental strives to provide a high-quality, personal service to our customers. We are always open to discuss any unique matters or needs our clients may have.



### ZIRCONIA

	MATERIALS	
	ST-ML	Explore
Coping / Pontic	R560	R580
Maryland wing / Full	R510	R535
Maryland wing / Half	R285	R300
Full Anatomy / Cutback	R670	R715
Implant Full Anatomy / Cutback	R995	R1125
Veneer	R670	R715
Inlay / Onlay	R560	R615
Implant Framework	R995	R1125

### ACETAL

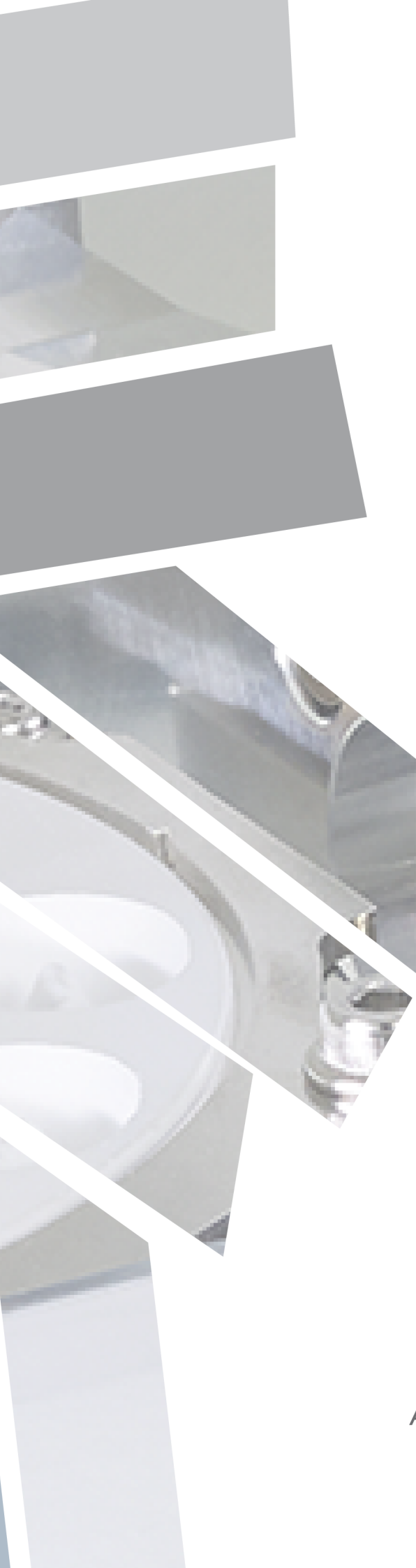
Partial Framework	R2290
Unilateral Framework	R1190

### ADDITIONAL SERVICES

ST-ML Stabilizer – Per Unit	R145
Explore Stabilizer – Per Unit	R155
PMMA Try-In	R180
PMMA Temporary	R340
Wax	R340
Scan Fee – Per Model	R170
Discount on Own Design	R130

\*Please note that restoration on an analogue will be charged as an implant.

**ALL PRICES INCLUDE 15% VAT**



**MILLSTONE**

DENTAL DESIGN

REG NO.: 2015/171416/07  
LA1630

25 PIKKEWYN AVE, RANDPARK RIDGE,  
RANDBURG  
2169

NEAL: 082 466 5971  
ANIKA: 084 385 4763  
OFFICE: (011) 764 1846

ANIKA@MILLSTONEDENTAL.CO.ZA  
NEAL@MILLSTONEDENTAL.CO.ZA  
ACCOUNTS@MILLSTONEDENTAL.CO.ZA  
ADMIN@MILLSTONEDENTAL.CO.ZA