



# OpaCem

## PMMA Bone Cement

Thanks to our years of tremendous experience and continuous research, we had been able to develop the new upgraded PMMA Bone Cement OpaCem.

The OpaCem cement includes 60% of X-ray contrast agent Zirconium Dioxide which allows to visualize the cement under fluoroscopy more clearly and determine the exact placement of cement.

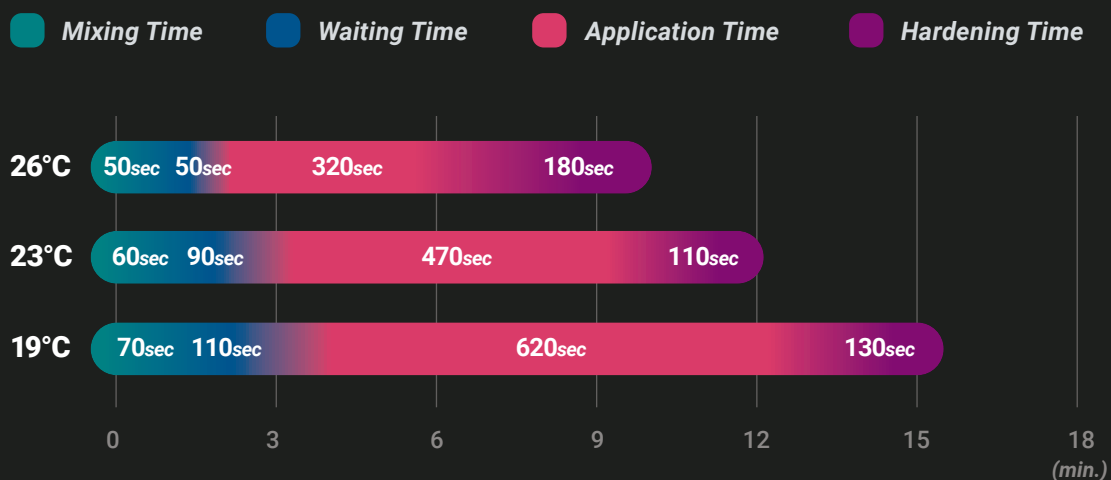
## Indications

- Severely painful osteoporotic compression fractures
- Painful vertebral body tumors (metastasis or myeloma)
- Symptomatic vertebral hemangioma

## Features

- High radiopaque cement with 60% of ZrO<sub>2</sub>**
- Optimized viscosity for Vertebroplasty and Kyphoplasty**
- Short mixing and long working time**
- Good mechanical properties**

## Chart of handling time at Various Temperature



Time shown in the chart was obtained by 2 hours storage at 20° before use condition.

## Composition

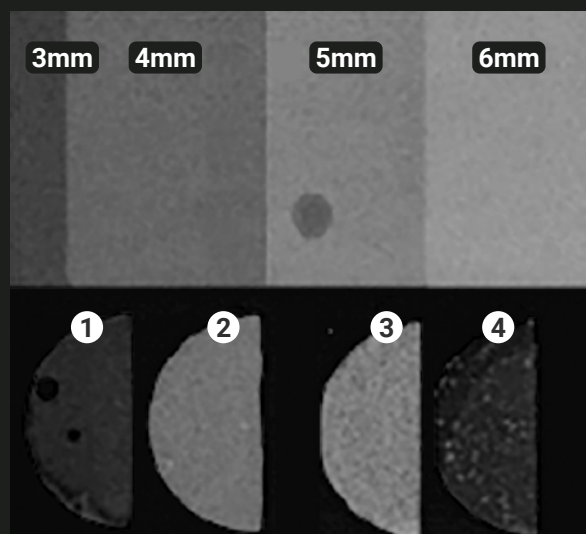
Component		Component	
<b>Powder (20g)</b>		<b>Liquid (8.5g)</b>	
Chemical name	Amount	Chemical name	Amount
Poly-methylmethacrylate	7.70g	Methyl methacrylate (monomer)	8.436g
Zirconium dioxide	12.00g	N.N-dimethyl para toluidine	0.064g
Benzoyl Peroxide	0.30g	Hydroquinone	150ppm

## High radiopacity property

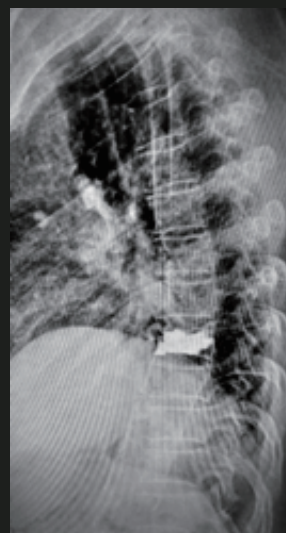
The following table shows the radiopacity property of OpaCem cement, NTCem Spine (old version), and two other brands.

No	Product name	Contrast agent name and amount added	AI (mm)
1	NTCem Spine	ZrO <sub>2</sub> 30%	2.2
2	OpaCem	ZrO <sub>2</sub> 60%	4.6
3	"B" brand	ZrO <sub>2</sub> 60%	4.7
4	"S" brand	BaSO <sub>4</sub> 30%	2.4

Pic 1 shows the AI step-wedge by 3,4,5,6mm and below Pic shows the brightness of each product which can be compared to AI step-wedge



Pic.1 AI step-wedge



Pic.2 X-ray Image

## Physical Properties

Evaluation standard (ISO 5833)

Compressive Strength <b>90~100</b> MPa	Application Time <b>8~10</b> min	Setting Time <b>12~14</b> min
Exothermic Temperature <b>60~80</b> °C	Bending Strength <b>60~70</b> MPa	Bending Modulus <b>4,909</b> MPa
Intrusion <b>≥2</b> mm	Radiopacity <b>4.6</b> mm	

## Product Specification

Model name	Order No	Components	Weight (g)
OpaCem	4210BG0002	Powder	20g
		Liquid	8.5g



HO-11-0

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