


A.G.M MTA Cement

Mineral Trioxide Aggregate



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A.G.M Mineral Trioxide Aggregate (MTA), a type of calcium silicate-based cement (CSCs), is used in endodontic treatment, not only as a root-end filling material but also for direct pulp capping and apexification, internal resorption and perforation, pulpotomy, and in regenerative endodontic procedures. Due to unique properties of MTA, In most of mentioned indications, no other material can be used. A.G.M MTA is a white cement, mainly composed of fine hydrophilic powders of tricalcium silicate, dicalcium silicate, calcium aluminate and zirconium oxid that can set in the presence of water. The liquid component contains sterile water, calcium chloride and a biocompatible thickening agent.











A.G.M MTA Product Properties



Using Zirconium as Radiopacifier agent

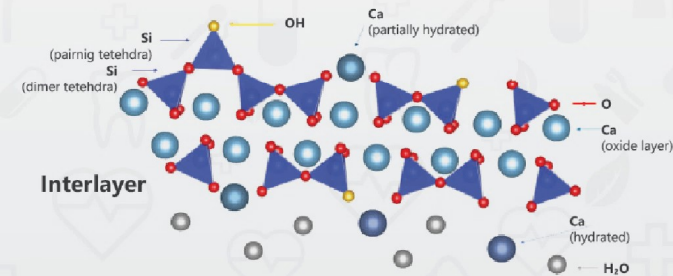
- A.G.M MTA is free of bismuth oxide. it contains zirconium oxide as a Radiopacifier and after immersion in water, sodium hypochlorite, or hydrogen peroxide was assessed by viewing the no color change. (Which is very important in Anterior Teeth treatments)

Exposure Time of LED Irradiator	0 second	10 second	30 second	90 second
	 MTA cement			
Other products that They have Bismuth Oxide				

Note: Verified under oxygen insulated condition by glycerin.

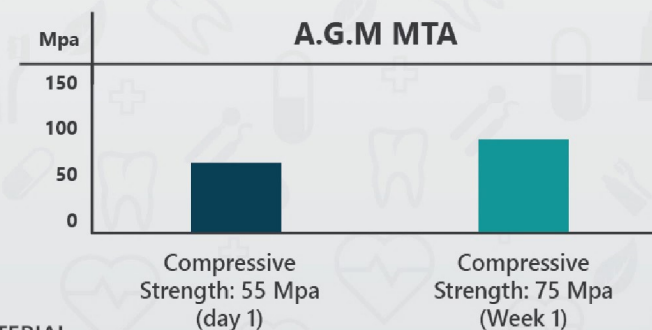
Ions Calcium Release

A.G.M MTA due to the release of calcium ions, has many of the required properties of root-end and perforation filling materials such as biocompatibility, sealing ability, Capable of inducing neoformation of periradicular cementum and the formation of a dentin bridge.



High Compressive Strength

Because of high compressive strength A.G.M MTA can be used in various indications

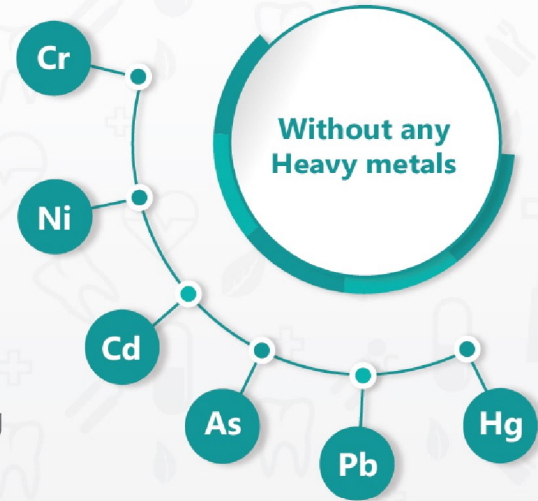


High Purity

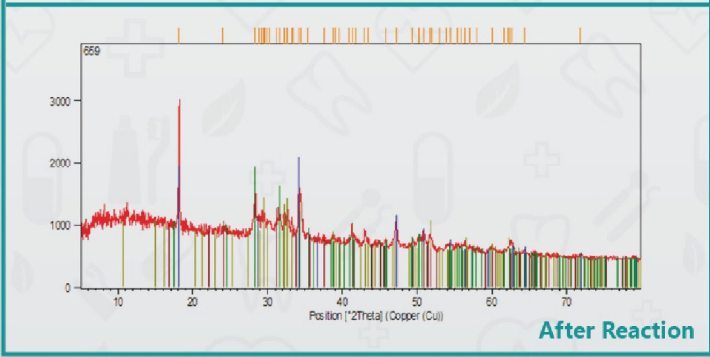
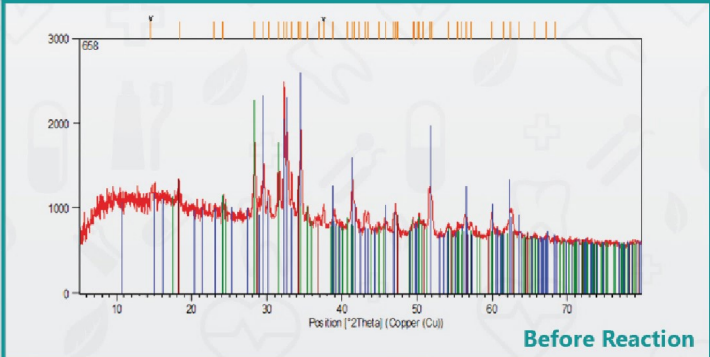
Not using industrial cement formula and synthesis of all stages with customized and unique formula. A.G.M MTA is also non-toxic due to its biocompatibility and high purity of ingredients.

High Alkalinity

A.G.M MTA increases the PH of the environment by releasing calcium hydroxide and thus prevents the growth of bacteria.



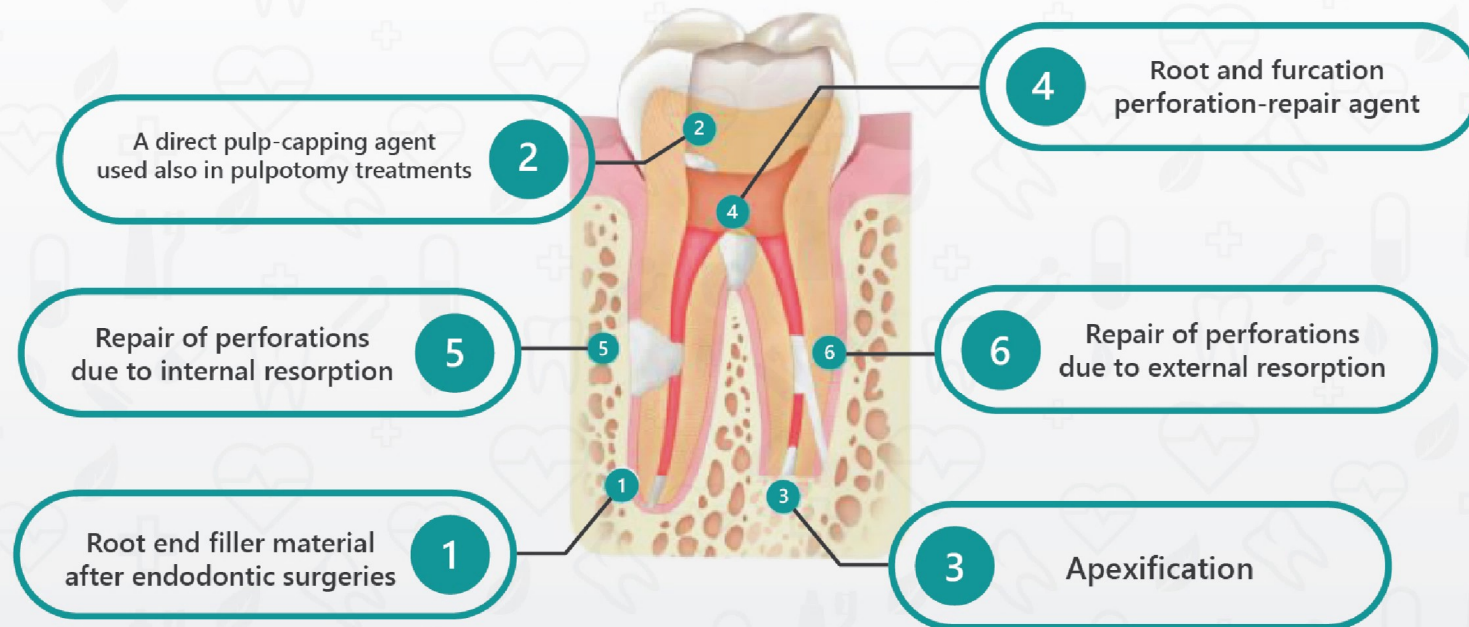
XDR Analysis



FE-SEM Analysis



Indications



A.G.M MTA in Practice



A.G.M MTA Product Properties

Radiopacity
Between
3-4 mm

Final Setting
Time
120 minute

Initial Setting
Time
9 minute

Working Time
5 minute

Mixing Time
90 second

Compressive
Strength
(1 day)
55 MPa

Commercial Brand	ISO 6876 Working Time (min)	ISO 6876 Setting Time (min)	ISO 9917 Setting Time (min)	ISO 9917 Compressive Strength (Mpa)	ISO 6876 & ISO 9917 Radiopacity in mm Al
Pro root	6	-	140 - 284	-	6.4 - 8.5
MTA Angelus	-	8.5 - 24.3	171 - 175	19.63-41.51	4.5 - 5.96
Biodentin	-	6.5	45 - 85.7	67.18-170.8	3.3 - 4.1
Bioagrigate	-	-	1260	16.34-29.07	5 - 5.7
Retro MTA	-	3	360	53 - 105	5
 A.G.M DENTAL MATERIAL MTA Cement	5	9	120	75 - 110	3.5 - 4

1. Comin-Chiaramonti, Lorenzo, et al. "Crystallochemical comparison between Portland cements and mineral trioxide aggregate (MTA)." *Journal of Applied Biomaterials and Biomechanics* 7.3 (2009): 171-178.]
2. Ha, William N., et al. "Mineral trioxide aggregate—A review of properties and testing methodologies." *Materials* 10.11 (2017): 1261.]

A.G.M MTA Packages and Kit Contents



1 Gr **3** × 0.35g Powder
1 × 1.5cc Liquid



Dropper



Powder Container
0.35g Powder



Liquid Container
1.8cc Liquid
1.5cc Liquid



2 Gr **6** × 0.35g Powder
1 × 1.8cc Liquid



A.G.M MTA Operation Procedures



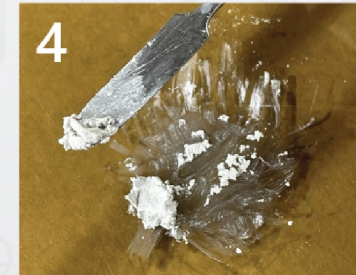
1 Place the product (powder) on a dental mixing paper or a mixing glass pad.



2 Drip an appropriate amount of liquid near the powder. The standard ratio of powder and liquid is 1 g of powder against 0.27 g of liquid.



3 Mix the powder and liquid with a spatula for about 60 - 90 sec.



4 Cap the exposure site with the mixed material using an instrument. To maintain moisture, cement must be immediately applied to the desired area after being mixed.





MTA CEMENT

Mineral trioxide aggregate

IMED License NO: 3447755

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