

SPECTRA

CASTING SPECTRACULAR

INVESTMENT POWDERS
INJECTION WAXES
SILICONE RUBBERS

CERTUS

SPECTRA

CASTING SPECTRACULAR

OUR COMPANY

Certus - Investment Powder Technologies Co., Ltd., established in Istanbul, Turkey, began operations in 2009 and is a company dedicated to the research, development, production and marketing of superior quality investment mold materials and support products used in casting ferrous and non-ferrous metals via the "Lost Wax Process".

The founding of Certus began with the vision of two men, Mr. Chris Urgupluoglu and Mr. Anthony Gugliotta, two long time industry professionals with backgrounds in materials research, formulating and production that spans more than 60 years. The company was formed due to a chance meeting of the two men who were introduced during a visit to the United States by Chris to visit a key raw material supplier.

After meeting and finding out that each man had similar views on life, morals, business ethics and quality, a friendship developed that would soon lead to the establishment of a company that ultimately would become an industry leader within an unusually short time. Within five years from start-up, Certus is now considered a leader in the industry and one of the few that can provide expert technical assistance for their customers. Products produced by Certus provide the investment casting industry with a wide range of investment powders and support products from which to choose. As the most modern producer of investment powder, Certus has quickly become a model for all other producers to follow.

According to the founders, one of the greatest successes at Certus has come from their "SPECTRA" line of "user friendly", premium casting investments. Engineered to outperform all the old, outdated premium investment powders developed in America back in the 1960's, and still being sold today, the "SPECTRA" line of premium casting investments incorporates all the latest developments in ceramic raw material and formulating technology. To ensure the quality and consistency of their products, Certus utilizes only the purest raw material sources available in the world. Because of the high purity and sizing of the refractory grains used, defects still obtained with other competitive brands have now been eliminated, thus far "Surpassing the Industry Standard" for investment.

Operating a "State of the Art" R&D & Quality Control laboratory and production facility, premium products produced by Certus are currently distributed in more than 60 countries around the globe through a distribution network of companies that also carry a full line of machines, equipment and supplies. Each distributor is highly trained in the use of SPECTRA investments and are able to answer any questions related to our products.

To further ensure the highest batch to batch consistency for investment powder in the industry, Certus first and foremost has a "ZERO DEFECTS" policy. To achieve this policy, all "SPECTRA" brand investments go through a "three phase" quality control and assurance procedure. The Certus program includes testing of all incoming raw materials for particle size distribution, chemistry and purity. Secondly, each batch tested to meet rigid specification for working time, set time, consistency of mixed investment slurry throughout the process, thermal expansion, green strength and finally fired strength after burnout.

The final and most important step in the three phase quality control system is for three samples of each batch produced by Certus to be field tested by three separate, independent casting companies.

As a further benefit to the customer, SPECTRA investment formulas for gold and silver are produced with proprietary "BLAST AWAY" technology recently developed by Certus to reduce costs for the user during cleanup of the tree before finishing. This new formulating innovation allows for the cast investment to undergo a physical change after casting that will make the fired investment to "BLAST AWAY" far more easily during initial water quench for a more complete removal of the investment from the cast tree, thus saving time and valuable resources in tree and flask clean-up.

This technology not only allows for more investment to be removed from flasks packed tightly with patterns, but also allows the removal of more residual investment still trapped inside blind holes and delicate areas of the design. Using SPECTRA brand investments with "Blast Away" technology can reduce up to 50% in the time required for flask and tree clean-up over all other leading brands.

"SPECTRA" Premium Jewelry Casting Investments
CASTING SPECTRACULAR

SPECTRA ADVANCE

FOR CASTING PALLADIUM, YELLOW AND WHITE GOLD UP TO 22 CARAT

SPECTRA ADVANCE is a premium gypsum bonded investment mold material developed for the precise casting of low temperature alloys such as gold up to 22k, silver, brass and bronze. Developed to provide superior casting results using a variety of equipment, SPECTRA ADVANCE is extra user friendly, provides ample working time for both manual and automatic vacuum investing techniques and is highly consistent from batch to batch, mix to mix.

Engineered using only the most refined, precise raw materials available for producing a superior quality investment powder, SPECTRA ADVANCE has superior green & fired strength, is highly resistant to thermal shock and has superior thermal stability at top end temperatures used for casting. SPECTRA ADVANCE is the perfect choice of investment powder for both the quality conscious custom jeweler, contract caster, or a high volume jewelry production facility.

SPECTRA ADVANCE FEATURES / BENEFITS

- Extra user friendly formula
- Lower rise under vacuum
- Variable water to powder ratio for thin to thick
- De-airs easily under vacuum for bubble free castings
- Accurate particle sizing provides for sharper, smoother cast surfaces
- Highly thermal shock resistant in burnout
- Eliminates watermarks on the cast surface
- Easier removal during water quench / Less time in clean-up
- Reduces times in finishing. Saves the user time and money over other leading brands



"CASTING SPECTRACULAR"

Advance comes in 22.5Kg. Plastic lined Poly Sacks, ergonomic 22.5Kg. Plastic Drums, or 45Kg. Heavy Duty reusable Plastic Drums for safe containment of used investment.

BURNOUT FOR SPECTRA ADVANCE

1: Load flask into room temperature oven and ramp to 150C. (302F.) over one (1) hour

2: Hold 150C. (302F.) three (3) hours

3: Ramp to 370C. (698F.) over one (1) hour

4: Hold 370C. (698F.) two (2) hours

5: Ramp to 750C. (1382F.) over two (2) hours

6: Hold 750C. (1382F.) four (4) hours

7: Reduce temperature to flask temperature for casting

8: Hold flask temperature for casting two (2) hours

9: CAST

INSTRUCTIONS FOR MIXING

Powder: Water Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

- Increasing the powder amount 1% will decrease the total working time for approximately 30 seconds

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com



SPECTRA
CASTING SPECTRACULAR

SPECTRA TRIVEST

FOR CASTING GOLD UP TO 18 CARAT, SILVER AND LOW MELTING ALLOYS

SPECTRA TRIVEST is a high quality gypsum bonded investment powder designed for the jewelry caster who prefers one reliable investment powder for multiple casting applications. Developed for the quality conscious caster to supply superior casting results with gold up to 18K, silver and other commonly used low melting alloys, SPECTRA TRIVEST is extra user friendly, easy to mix and provides ample working time for either manual, or automatic vacuum investing.

SPECTRA TRIVEST is highly consistent from batch to batch, mix to mix. Engineered to be extra user friendly throughout the investing and burnout process, SPECTRA TRIVEST is highly resistant to thermal shock and is thermally stable for consistent results. SPECTRA TRIVEST is the perfect choice of investment powders for both the small shop and high volume jewelry production facility.

SPECTRA TRIVEST FEATURES

- Extra user friendly formula
- Low rise under vacuum
- Variable water / powder ratio
- De-airs easily for bubble free castings
- Eliminates watermarking on the cast surface
- Provides a smooth, uniform cast surface
- Easy removal during water quench / Less time in clean-up
- Superior casting results that require less finishing
- Saves the user time and money over other leading brands



"CASTING SPECTRACULAR"

Trivest comes in 22.5Kg. Plastic lined Poly Sacks, ergonomic 22.5Kg. Plastic Drums, or 45Kg. Heavy Duty reusable Plastic Drums for safe containment of used investment.

BURNOUT FOR SPECTRA TRIVEST

1: Load flask into room temperature oven and ramp to 150C. (302F.) over one (1) hour

2: Hold 150C. (302F.) three (3) hours

3: Ramp to 370C. (698F.) over one (1) hour

4: Hold 370C. (698F.) two (2) hours

5: Ramp to 750C. (1382F.) over two (2) hours

6: Hold 750C. (1382F.) four (4) hours

7: Reduce temperature to flask temperature for casting

8: Hold flask temperature for casting two (2) hours

9: CAST

INSTRUCTIONS FOR MIXING

Powder: Water Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

- Increasing the powder amount 1% will decrease the total working time for approximately 30 seconds

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout





SPECTRA
CASTING SPECTRACULAR

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com

SPECTRA CAST

FOR CASTING SILVER, BRONZE AND BRASS

SPECTRA CAST is a quality, cost effective gypsum bonded investment designed to produce superior casting results in silver, bronze and brass. Reliable for the casting even the most complex shapes, Spectra "CAST" is extra user friendly formula, works well using a variety of mixing techniques and highly consistent from batch to batch, mix to mix. Spectra "CAST" is the perfect choice for today's quality conscious caster looking to save time and money.

SPECTRA CAST FEATURES / BENEFITS

- Easy to mix and use
- Provides ample working time
- Superior mold strength for flash free castings
- Anti-watermarking properties
- De-air's bubbles from pattern surface with ease
- Good thermal shock resistance in burnout
- Smooth castings surfaces provide less time in finishing
- Saves the user time and money



"CASTING SPECTRACULAR"

Cast comes in 22.5Kg. Plastic lined Poly Sacks, ergonomic 22.5Kg. Plastic Drums, or 45Kg. Heavy Duty reusable Plastic Drums for safe containment of used investment.

BURNOUT FOR SPECTRA CAST

1: Load flask into room temperature oven and ramp to 150C. (302F.) over one (1) hour

2: Hold 150C. (302F.) three (3) hours

3: Ramp to 370C. (698F.) over one (1) hour

4: Hold 370C. (698F.) two (2) hours

5: Ramp to 750C. (1382F.) over two (2) hours

6: Hold 750C. (1382F.) four (4) hours

7: Reduce temperature to flask temperature for casting

8: Hold flask temperature for casting two (2) hours

9: CAST

INSTRUCTIONS FOR MIXING

Powder: Water Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

- Increasing the powder amount 1% will decrease the total working time for approximately 30 seconds

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com





SPECTRA
CASTING SPECTRACULAR

SPECTRA ECONO

FOR CASTING BRASS AND BRONZE

SPECTRA ECONO is a high value, lower cost gypsum bonded investment developed specially to save the user time & money when casting Brass & Bronze alloys. Designed to give exceptional casting results in both high and low production environments.

Spectra "Econo" uses special refractory ingredients, a high purity gypsum binder and the particle sizing necessary to produce exceptional smooth, dense, bubble free castings time after time in Brass & Bronze.

SPECTRA ECONO FEATURES / BENEFITS

- Easy to mix & pour / Extra user friendly
- Low rise under vacuum
- Provide bubble free castings
- Anti-watermarking formula
- Superior green & fired strength
- High stability in burnout
- Easier removal during water quench
- Provides sharp detailed, flash free casting
- Reduces times in finishing



"CASTING SPECTRACULAR"

Econo comes in 22.5Kg.
Plastic lined Poly Sacks.

BURNOUT FOR SPECTRA ECONO

1: Load flask into room temperature oven and ramp to 150C. (302F.) over one (1) hour

2: Hold 150C. (302F.) three (3) hours

3: Ramp to 370C. (698F.) over one (1) hour

4: Hold 370C. (698F.) two (2) hours

5: Ramp to 730C. (1346F.) over two (2) hours

6: Hold 730C. (1346F.) for four (4) hours

7: Reduce temperature to flask temperature for casting

8: Hold flask temperature for casting two (2) hours

9: CAST

INSTRUCTIONS FOR MIXING

Powder: Water Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

Powder / Water Ratio: 100gr. to 38-40ml water Working Time 10-11 Minutes.

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com







SPECTRA
CASTING SPECTRACULAR

SPECTRA SHIELD

FOR CASTING STONE IN PLACE

SPECTRA SHIELD is a premium quality gypsum bonded investment developed specially for “Wax Setting”. (Casting “Stone In Place”). Pre-blended and ready to use, Spectra “SHIELD” forms a reliable heat shield around precious, semi-precious and non-precious stones to protect them from clouding, or burning during burnout. Spectra “SHIELD” is highly compatible with both manual and automatic vacuum investing techniques and is the superior choice for casting “Stone In Place” in gold up to 22K., silver and bronze.

SPECTRA SHIELD FEATURES / BENEFITS

- Easy to mix, vacuum & pour
- Pre-blended, nothing to add
- Protects diamonds, semi and non-precious stones up to a temperature of 630C (1166F.)
- De-airs with ease for bubble free castings
- Casts gold up to 22K
- Provides superior, smooth casting surfaces
- Saves the user time & money



“CASTING SPECTRACULAR”

Shield comes in 22.5Kg. Plastic lined Poly Sacks, ergonomic 22.5Kg. Plastic Drums, or 45Kg. Heavy Duty reusable Plastic Drums for safe containment of used investment.

BURNOUT FOR SPECTRA SHIELD

1: Load flask into room temperature oven and ramp to 150°C. (302°F.) over one (1) hour

2: Hold 150°C. (302°F.) three (3) hours

3: Ramp to 610°C. (1130°F.) over two (2) hours

4: Hold 610°C. (1130°F.) seven (7) hours

5: Reduce oven to flask temperature for casting

6: Hold flask temperature for casting two (2) hours

7: CAST

INSTRUCTIONS FOR MIXING

Powder: Water Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

Powder / Water Ratio: 100gr. to 38-40ml water Working Time 10-11 Minutes.

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com





SPECTRA
CASTING SPECTRACULAR

SPECTRA GENESIS

FOR DIRECT CASTING FROM RESIN PRINTS, PLASTIC & WAX BASED POLYMERS

SPECTRA "GENESIS" is a premium, extra high strength gypsum bonded investment designed to provide superior results when investing either injection waxes, or today's 3-D printed resins (DLP, SLA), plastic patterns, or carving waxes used in pattern making.

Expertly formulated for the superior casting of low melting alloys such as karat golds up to 22K, Spectra "Genesis" is the perfect alternative to using a more expensive, fast setting, hard to remove phosphate bonded investments used for casting resin prints.

SPECTRA GENESIS FEATURES / BENEFITS

- Extra user friendly, easy to mix and use
- Variable water / powder mixing ratio
- Low rise under vacuum
- De-airs easily for bubble free castings
- Higher green & fired strength
- Superior resistance to thermal shock in burnout
- Removes easily during water quench
- Provides smoother cast surfaces
- Saves the user time and money over other leading brands



"CASTING SPECTRACULAR"

Genesis comes in 22.5Kg. Plastic lined Poly Sacks, ergonomic 22.5Kg. Plastic Drums, or 45Kg. Heavy Duty reusable Plastic Drums for safe containment of used investment.

BURNOUT OF INJECTION WAX

1: Load flask into room temperature oven
2: Ramp to 150C. (302F.) over one (1) hour
3: Hold 150C. (302F.) three (3) hours
4: Ramp to 370C. (698F.) over one (1) hour
5: Hold 370C. (698F.) two (2) hours
6: Ramp to 750C. (1382F.) over two (2) hours
7: Hold 750C. (1382F.) four (4) hours
8: Reduce temperature to flask temperature for casting
9: Hold flask temperature for casting two (2) hours
10: CAST

BURNOUT OF RESIN PRINTS

1: Ramp to 150°C (302°F) in an hour
2: Hold at 150°C (302°F) for three (3) hours
3: Ramp to 300°C (572°F) over one (1) hour
4: Hold 300°C (572°F) for one and a half (1.5) hours
5: Ramp to 450°C (842°F) over one (1) hour
6: Hold 450°C (842°F) for two (2) hours
7: Ramp to 750°C. (1382°F) over one and a half (1.5) hours
8: Hold 750°C (1382°F) 3-4 hours (depending on flask size)
9: Reduce oven to flask temp. for casting
10: Hold flask temp. 1-2 hours (depending on flask size)

INSTRUCTIONS FOR MIXING

Powder: Water to Powder Ratio (38% - 40%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	380	1	172
Conventional Mixing	1	400	1	181.6
Water Temperature °C	21-24	21-24	21-24	21-24

Powder / Water Ratio: 100gr. to 38-40ml water
Working Time 10-11 Minutes

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	2
Vacuum Invested Flask	1
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 90-120 minutes before burnout

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com





SPECTRA
CASTING SPECTRACULAR

SPECTRA PLATINA

FOR CASTING PLATINUM AND STAINLESS STEEL

SPECTRA PLATINA is a superior two-part, high temperature investment developed to give premium results casting platinum, palladium & stainless steel and metals that melt in excess of 1500°C. – 2732F. SPECTRA PLATINA investment powder supplies superior, consistent results and unlike other two-part high temperature investments on the market, comes complete with special proprietary additives that eliminate air bubbles and will provide a far smoother cast surface that requires less finishing than with other brands.

FEATURES

- Mixes to a consistent, easy to pour slurry
- Special additives to eliminate air bubbles on the cast surface
- Lower rise under vacuum
- Provides a super smooth cast surface that far requires less finishing
- Easier to remove than phosphate water mix and other two-part investments
- Saves the user time & money
- Online binder / water calculator available for accurate mixing calculations

BINDER PREPARATION

SPECTRA PLATINA binder is concentrated and must be diluted before use.
Warning: Always take the necessary safety precautions and wear protective glasses and gloves as the binder is acidic.



The binder is diluted at the ratio of 1 part binder to 19 parts distilled water by volume. To prepare, carefully **add the binder concentrate to the water.**

If measuring the binder by weight, use the table at the top right:

"CASTING SPECTRACULAR"

SPECTRA PLATINA comes packaged in 22.5 kg. Poly Sacks or in ergonomic, 22.5 kg, plastic drums. The heavy duty plastic drums are great for containing used investment. SPECTRA PLATINA powder comes complete with enough binder concentrate to process the entire quantity of powder.

For 6 in x 3.5 in Flasks Volume or Weight

Number of flasks	Weight of Powder gms	Volume of Water cc	Volume of Liquid concentrate cc	Weight of Liquid concentrate gms
-	1000 gms	285 cc	15 cc	22 gms
1	1500	428	23	33
2	3000	855	45	65
3	4500	1283	68	98
4	6000	1710	90	130
5	7500	2138	113	163
6	9000	2565	135	196

8 X 3.5 inch Flasks Volume or Weight

Number of flasks	Weight of Powder gms	Volume of Water cc	Volume of Liquid concentrate cc	Weight of Liquid concentrate gms
-	1000 gms	285 cc	15 cc	22 gms
1	1650	470	25	36
2	3300	940	50	73
3	5000	1425	75	110
4	6600	1881	99	144
5	8250	2351	124	180
6	9900	2821	149	216

PREPARING THE FLASK

To absorb excess binder used for mixing, cut a piece of non-asbestos, cellulose paper 1" (2.54 cm.) less than the height of the flask used. Roll the paper to form a cylinder and insert into the flask leaving an equal amount of open space at the top and bottom. Add masking tape, or rubber removable extension to the top of the flask to contain the investment during vacuuming.

PREPARING THE SPRUE BASE

To prepare the sprue base, two methods may be used. For flask sizes 3" X 3" (7.62 X 7.62cm.), or less, a non-asbestos, cellulose paper 1/16" (1.588mm.) thick and 4" (10.16cm.) in width is best used (Non-asbestos, cellulose paper is available through casting supply companies, or companies supplying cellulose paper). For larger diameter flasks and heights, a standard rubber base modified with holes cut out around the circumference of the sprue button can be used.

a. For flask sizes 3" X 3" (7.62 X 7.62cm.), or less, use a special thickness of non-asbestos, cellulose paper for the base with a 0.75" (1.905cm.) hole cut in the center for wax drainage during burnout. Next, using a sticky wax, center and attach a pre-made wax button over the center hole in paper base. Attach the sprue rod to the top center of the wax button. **Note:** As an alternative, use a thickness of 3 automatic drip type coffee filters and cut out a 0.75" (1.905cm.) hole in the center. Next center the flask around the tree, pull up the sides of the filters and secure to the flask with strong rubber bands. (Although coffee filters work quite well, any good, thick permeable paper may be used for the base).

b. For large flasks, a rubber sprue base may be used which has been modified with holes cut out around the diameter of the center button to allow for the excess binder moisture to be wicked away during the curing process. Place a piece of cotton cloth with a hole cut out large enough to fit around the rubber button. **Note:** As an alternative, you can remove the rubber cone and instead use a pre-made wax button attached to the cloth that will also create a seal when the flask is placed. Last, center the flask around the tree and press it firmly into the cloth and base. When using either method, use tape or a rubber collar extension around the top of the flask to contain the investment while vacuuming.

Note: (Although coffee filters work quite well, any good permeable, or cellulose paper may be used for the base).

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com

MIXING THE INVESTMENT

- The diluted binder to powder ratio range used for mixing is 28 to 30 parts binder solution, per 100 parts powder (28 - 30/100)
- Using a heavy duty, high torque commercial mixer such as a Hobart, or Kitchen Aid, add the require amount of binder solution to the mixing bowl.
- On low speed, slowly add the powder, a little at a time to the mixing bowl. Allow each amount added to thin before adding more. The mixed slurry will appear very thick, but will thin down as it mixes, this is normal. Once all the powder has been added, increase mixing speed to a medium setting and mix for an additional 10 – 15 minutes
- Place the mixed slurry under full vacuum until it rises, breaks and begins to boil. Continue vacuum for 2 minutes.
- Pour investment slurry gently down along the inside of the flask. Avoid directly hitting the patterns. Fill with 2" (5.08cm.), or more over the top row of patterns.
- Place the filled flasks under vacuum and vacuum for 2 minutes.
- After investing is complete, to cure place flask onto a thickness of old newspaper. If rubber bases are used, place flask onto a 3" (7.62cm.) bed of unused Platina, which can be used many times over before replacing. Leave flasks undisturbed until the slurry becomes a thick, dull gray paste. The time required to cure the investment can vary from a few hours to overnight depending on flask size used.

Note: As the investment cures, it will sink down in the middle approx. 1" (2.54cm) from the top. To compensate, cover the top row of patterns with 2" (5.08cm.), or more of investment.

- When a rubber base is used, allow two additional hours after the investment appears hard before carefully removing the base.

BURNOUT OF FLASKS SIZES UP TO 3"x 3" (7.62 x 7.62cm.),

1. Room temp to 93C. over 30 minutes.
2. Hold 93C. 2 hours.
3. Ramp to 180C. over 1 hour.
4. Hold 180C. 2 hours.
5. Ramp to 900C. over 4 hours.
6. Hold 900C. 3 hours.
7. Cast.

Note: For larger flask sizes hold 900C. 4 hours.





SPECTRA NEXUS

WATER MIX INVESTMENT POWDER FOR CASTING PLATINUM AND STAINLESS STEEL

SPECTRA NEXUS is a premium, high-temperature phosphate bonded investment mold material specifically designed & engineered by Certus for casting designs in platinum, palladium, stainless steel and chrome cobalt alloys. This extra user friendly formula mixes easily using only water, no additional binder liquid required, creating a smooth, consistent slurry that is simple and highly reliable to use.

Manufactured with high purity ingredients, SPECTRA NEXUS delivers outstanding quality and batch to batch consistency making it the first advancement in water mix, high temperature investment in decades that actually provides a smooth casting surface, not the rough, distorted surfaces usually obtained using the old outdated water mix, high temperature investments still on the market today.

FEATURES

- Advanced user friendly formula
- Mixes only with water - No additional binder liquid required
- Provides a lower rise under vacuum
- Utilizes high purity ingredients for superior quality & consistency
- Stable high temperature resistance throughout burnout
- Captures sharp, delicate details with super smooth casting surfaces unmatched by any other brand
- Greatly reduces porosity and times in finishing, saving the user time & money



Used by quality conscious casters worldwide, SPECTRA NEXUS has proven to be a truly superior phosphate bonded investment for platinum and stainless steel casting.

"CASTING SPECTRACULAR"
Nexus comes in 22.5Kg. Aluminum Vacuum Sealed Sacks.

BURNOUT FOR SPECTRA NEXUS

1: Load flask into room-temperature oven and ramp to 110°C (230°F) over one (1) hour.
2: Hold at 110°C (230°F) for two and a half (2.5) hours.
3: Ramp to 300°C (572°F) over one (1) hour.
4: Hold at 300°C (572°F) for thirty (30) minutes.
5: Ramp to 720°C (1328°F) over two (2) hours.
6: Hold at 720°C (1328°F) for four (4) hours.
7: Ramp to 850°C (1562°F) over thirty (30) minutes.
8: Hold at 850°C (1562°F) for one (1) hour.
9: Ramp to 900°C (1652°F) over thirty (30) minutes.
10: Hold at 900°C (1652°F) for one (1) hour.
11: Reduce temperature to the required flask temperature for casting.
12: CAST.

INSTRUCTIONS FOR MIXING

Powder: Water to Powder Ratio (28% - 29%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	280	1	127
Conventional Mixing	1	290	1	132
Water Temperature °C	10-15	10-15	10-15	10-15

- Increasing the powder amount 1% will decrease the total working time for approximately 30 seconds.

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	4
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	7

- Allow to sit undisturbed for 180-240 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	4
Vacuum the Bowl	1
Pour into Flask	1
Vacuum Invested Flask	2
Total Working Time	8

- Allow to sit undisturbed for 180-240 minutes before burnout

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com





SPECTRA GALAXY
JEWELRY INJECTION WAX

GALAXY JEWELRY INJECTION WAX

Precision in every pattern

From delicate filigree to bold sculptural forms, every jewellery design has details worth preserving. SPECTRA GALAXY is formulated to reproduce those details in wax, capturing fine textures, defined edges and intricate contours before the casting process begins.

GALAXY combines high fluidity with a flexible, non-brittle structure to support both accurate mould filling and practical pattern handling. Its low shrinkage helps maintain the intended form, while smooth pattern surfaces provide a sound foundation for subsequent casting and finishing. A low ash content supports clean burnout, making GALAXY a versatile choice for professional jewellery production.

KEY FEATURES

- **Fine detail reproduction**
  Captures intricate textures, delicate openwork and clearly defined design features.
- **Fluidity for complex designs**
  Flows into fine mould cavities at low injection temperatures, supporting the reproduction of demanding patterns.
- **Flexibility in handling**
  Helps delicate patterns withstand demoulding, inspection and wax tree assembly.
- **Low shrinkage**
  Helps preserve dimensions and contours across both fine and substantial sections.
- **Smooth surface quality**
  Produces clean, well-defined wax surfaces that support the quality of the finished casting.
- **Clean burnout**
  Low ash content helps minimise residue during burnout.



Color (Visual)	
Dropping Point [ASTM D3954]	68-74°C
Congealing point [ASTM D938]	66-70°C
Penetration at 25°C [ASTM D1321]	4-8*0.1mm
Viscosity at 100°C [ASTM D3236]	90-130mPa.s

PROCESSING ADVICE
Recommended injection temperature: 68-74°C



PACKAGING
Supplied in 25 Kg. Boxes

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com



SPECTRA LIASIL

SILICONE MOLDING RUBBERS

Spectra Liasil™ silicone mold rubbers series offers reliable rubbers in various hardness to cover all applications that suits the needs of both custom jewelers and high volume casting shops. Liasil™ rubbers are strong, tear resistant and fully compatible with both vacuum and traditional wax injectors, allowing for easy wax release without the need for sprays. Choose based on the needed flexibility vs. rigidity for your specific patterns.

FEATURES

- Low shrinkage for dimensional accuracy
- High detail reproduction
- Ease of use / User friendly
- Flexible elongation for easy demolding of complex designs
- Durability and longevity
- Excels in release and finish
- High tear/tensile strength, withstands repeated wax injections
- Consistency – stable shapes under injection pressure, reliable sealing
- Cost effective – Ease of producing complex molds









Physical Properties	Liasil 20	Liasil 30	Liasil 40
Color	Shiny Turquoise	Pale Turquoise	Phosphoric Green
Hardness Shore A	38-40	48-50	48-50
Vulcanizing Temp	80°C-176°F	80°C-176°F	80°C-176°F
Shrinkage	1-2%	1-3%	1-3%
Tensile N/mm2-Psi	8.9-1289	9.5-1378	7.8-1132
Elongation	625%	660%	680%







Physical Properties	Liasil 70	Liasil 80	Liasil 90
Color	Shiny Yellow	Bordeaux	Pale Yellow
Hardness Shore A	38-40	48-50	48-50
Vulcanizing Temp	170°C-338°F	170°C-338°F	170°C-338°F
Shrinkage	3-5%	3-5%	3-5%
Tensile N/mm2-Psi	8.3-1204	6.2-897	7.7-1117
Elongation	670%	565%	640%

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com

www.certus-int.com



SPECTRA MOMENTUM

FOR CASTING LARGE NON-FERROUS SCULPTURES AND INDUSTRIAL PARTS

SPECTRA MOMENTUM is a gypsum bonded, industrial grade investment mold material specially formulated for non-ferrous casting of industrial components, large sculptures, art forms and decorative pieces. Containing specially graded refractory grains and high purity cristobalite, MOMENTUM utilizes proprietary control additives that provide a lower rise under vacuum, eliminate water marking on the cast surface and greatly reduce casting defects still obtained using other competitive brands.

INSTRUCTIONS FOR USE

- MOMENTUM is mixed at a ratio of 34-35 parts water, per 100 parts powder (34 - 35/100), by weight.
- Using a mechanical mixer, add the powder to the water. Mix for 5 minutes.
- Vacuum mixed slurry until it rises, breaks and begins to boil vigorously. Continue full vacuum for an additional 1 - 1.5 minutes.
- Pour the investment slurry down along the inside of the flask allowing it to flow up, around and through the patterns, covering them by a minimum depth of 2.5cm. (1 inch) of investment.
- Vacuum investment slurry until it rises, drops and begins to boil. Continue to vacuum for 1 to 1.5 minutes.
- Allow flasks to sit undisturbed in a vibration free area for 2 hours before starting burnout.



Used by quality conscious casters worldwide, SPECTRA MOMENTUM is a gypsum bonded investment for casting larger non-ferrous art designs and industrial parts.

"CASTING SPECTRACULAR"
Momentum comes in 22.5 Kg. Plastic lined Poly Sacks or 1 Ton Heavy Duty Bulk Bags.

RECOMMENDED BURNOUT FOR MOMENTUM

1: Load flask into room temperature oven and ramp to 149C. (300F.) over one (1) hour

2: Hold at 149C. (300F.) for four (4) hours

3: Ramp to 250C. (482F.) over one (1) hours

4: Hold 250C. (482F.) two (2) hours

5: Ramp to 730C. (1346F.) over five (5) hours

6: Hold 730C. (1346F.) five (5) hours

7: CAST

INSTRUCTIONS FOR MIXING

Powder: Water to Powder Ratio (34% - 35%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	340	1	154
Conventional Mixing	1	350	1	159
Water Temperature °C	21-24	21-24	21-24	21-24

- Increasing the powder amount 1% will decrease the total working time for approximately 30 seconds.

Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	3
Vacuum Invested Flask	3
Total Working Time	11

- Allow to sit undisturbed for 120-150 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	5
Vacuum the Bowl	1
Pour into Flask	2
Vacuum Invested Flask	3
Total Working Time	11

- Allow to sit undisturbed for 120-150 minutes before burnout

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com

STEAM DE-WAXING & BURNOUT

Place flask into a steam chamber only allowing for the minimum amount of time needed to remove the bulk of the wax from the mold.

Note: Leaving in steam too long will erode investment surface. Once de-waxing is complete, immediately transfer flasks directly to burnout oven.

Note: Do not allow flasks to cool before transferring to pre-heated oven for burnout.

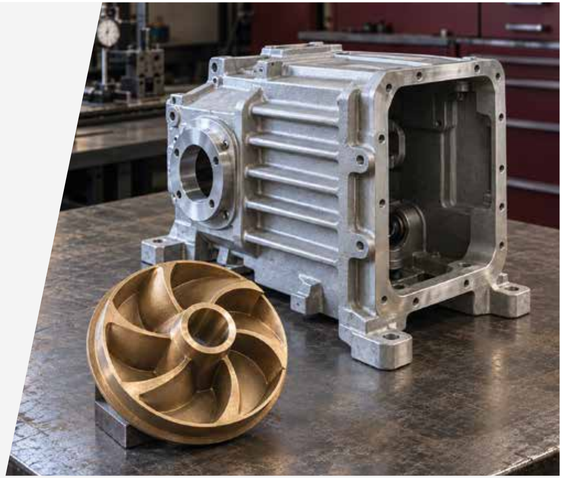
1. Load flasks into oven preheated to 149°C. (300F.)
2. Hold 149°C. (300F.) for 4-6 hours.
3. Increase temperature to 250°C and hold for 2 hours.
4. Increase temperature to 732°C. (1350F.) at a rate of 66-93°C. (150 - 200F.) per hour.
5. Hold 732°C. (1350F.) four (4) to five (5) hours
6. Decrease temperature to desired mold temperature for casting
7. Hold mold temperature for casting 2 hours to stabilize temperature throughout the mold.
8. CAST

DRY DEWAXING & BURNOUT:

1. Place flasks into the burnout oven preheated to 149C. (300F.)
2. Hold temperature at 149C. (300F.) for 4-6 hours.
3. Increase temperature to 250°C and hold for 2hours.
4. Increase temperature to 732C. (1350F.) at a rate of 66 – 93C. (150 – 200F.) per hour.
5. Hold temperature at 732C. (1350F.) for four (4) to five (5) hours, or until all the carbon residue from the wax has been completely eliminated.
6. Once burnout at peak temperature is complete, reduce oven temperature to the desired flask temperature required for casting.

Note: Mold temperature for casting Aluminum: 204 – 282C. (400 – 540F.). Bronze & most copper based alloys: 427 – 538C. (800 – 1000F.)

7. Hold oven at desired temperature for casting for 2 hours, or longer if necessary until the temperature has completely stabilized throughout the mold.
8. The mold is now ready to be CAST.





SPECTRA
MOMENTUM TIRE

FOR TIRE MOULD CASTING

SPECTRA MOMENTUM TYRE is a superior quality, non-foamed investment moulding plaster developed for casting aluminium alloys via the permanent mould process. Engineered to provide the highest quality moulds for tire vulcanisation, MOMENTUM TIRE is a consistent, easy-to-use tire mould casting plaster that provides sharp, detailed replication of even the most complex tread configurations.

INSTRUCTIONS FOR USE

- User-friendly, easy-to-mix formula.
- Expansion and shrinkage values are strictly controlled.
- Added surface tension reducer assists in removing trapped air bubbles.
- Precise particle sizing for a smoother as-cast surface.
- Excellent mould permeability.
- Formula greatly reduces mould cracking and warping.
- Provides tight tolerances.
- High batch-to-batch consistency.
- Reduces rejects, saving time and money spent on finishing.



Used by quality conscious casters worldwide, SPECTRA MOMENTUM TIRE has proven to be a truly superior gypsum bonded investment for Tire mould casting.

"CASTING SPECTRACULAR"
Momentum Tire comes in 22.5 Kg. Plastic lined Poly Sacks or 1 Ton Heavy Duty Bulk Bags.

RECOMMENDED BURNOUT FOR MOMENTUM TIRE

1: Load flask into room-temperature oven and ramp to 150°C. (302°F) over two (2) hours.

2: Hold at 150°C (302°F) for seven (7) hours.

3: Ramp to 295°C (563°F) over five (5) hours.

4: Hold at 295°C (563°F) for ten (10) hours.

5: Lower to the required casting temperature.

6: CAST.

Injection wax. Burnout time may vary depending on flask size.

INSTRUCTIONS FOR MIXING

Powder: Water to Powder Ratio (50% - 52%)	Powder (Kg.)	Water (cc.)	Powder (Lb.)	Water (cc.)
Automatic Vac. Mixing	1	500	1	227
Conventional Mixing	1	520	1	236
Water Temperature °C	21-24	21-24	21-24	21-24

- Increasing the powder amount by 1% will decrease the total working time by approximately 30 seconds.

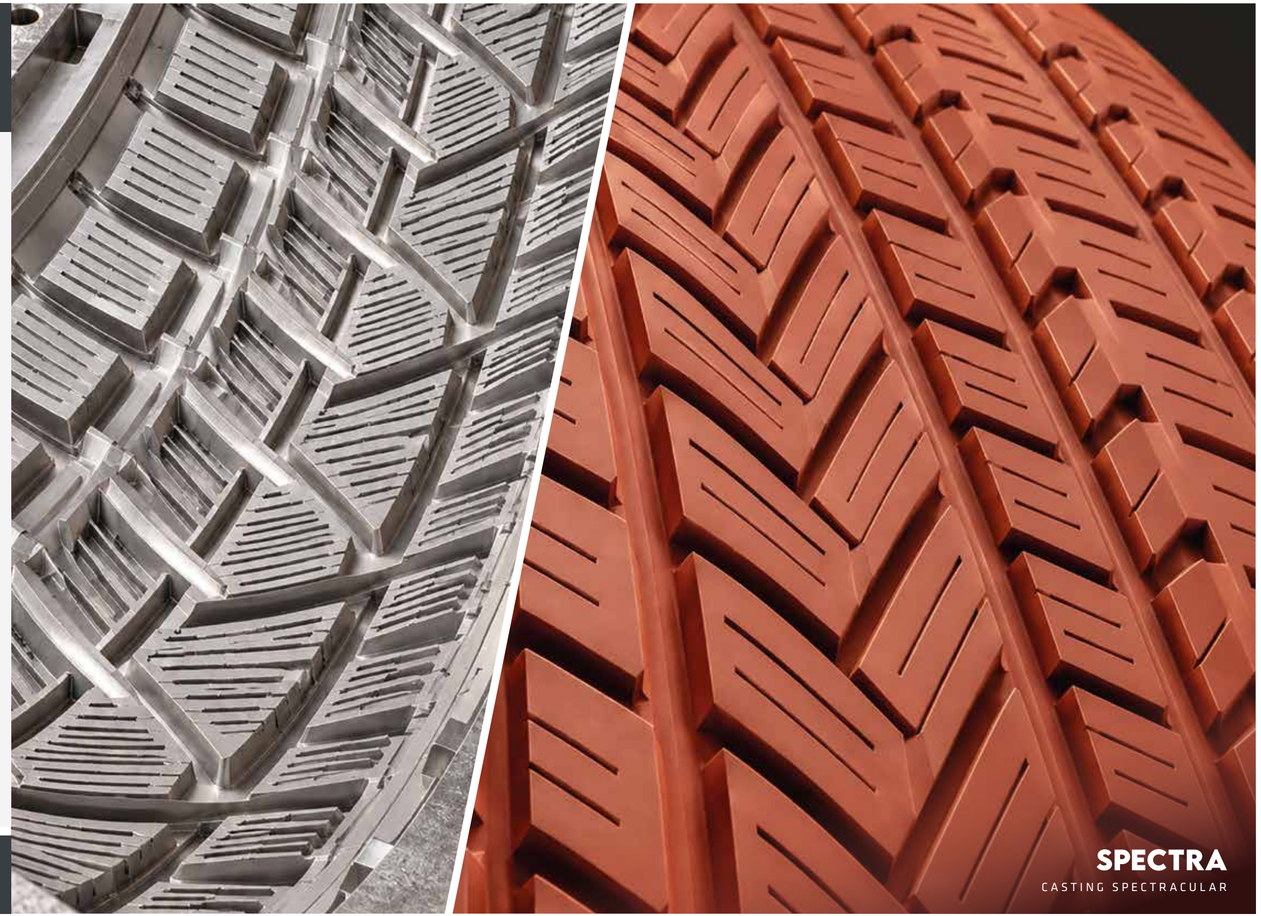
Automatic Vac. Mixing Mach.	Minutes
Accurately Weigh Powder / Water	-----
Add Powder to Water	-----
Mixing & Vacuuming	5
Pour into Flask	3
Vacuum Invested Flask	3
Total Working Time	11

- Allow to sit undisturbed for 120-150 minutes before burnout

Conventional Mixing Mach.	Minutes
Accurately Weigh Powder Water	-----
Add Powder to Water & Mix	5
Vacuum the Bowl	1
Pour into Flask	2
Vacuum Invested Flask	3
Total Working Time	11

- Allow to sit undisturbed for 120-150 minutes before burnout

CERTUS
Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (212) 674 81 47 - **Email:** chris@certus-int.com
www.certus-int.com



SPECTRA

CASTING SPECTRACULAR

INVESTMENT POWDERS | INJECTION WAXES | SILICONE RUBBERS

CERTUS

Factory: Muratpasa Mah. Siteler Cad. No: 14/B Bayrampasa P.O. 34040 Istanbul - TURKEY
Phone: +90 (533) 638 37 13 - **E-mail:** chris@certus-int.com www.certus-int.com

International Organization for Standardization ISO 9001