BIESSE

Quality management system
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⚠ Instructions for use

This leaflet is inclusive of very important information and warnings for a proper use of the product. Read it carefully

Porcelain alloy WEGA

CE 0546

Components

Pd	53,5%	Zn	<1%	
Ag	37,5%			
Sn	8,5%			
Ru	<1%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	515
Expansion coeff. 20-500 °C:	14,9
Density (g/cm^3):	10,4
Vickers hardness (HV5):	295

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1190-1270 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions. Cooling phases should be adapted according to the high expansion coefficient of the alloy (15,2 from 20 to 600 °C).

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy YORK/S

CE 0546

Components

Pd	59,9%	Zn	2,5%	
Ag	28%	Ru	<1%	
Sn	7%			
In	2,5%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	620
Expansion coeff. 20-500 °C:	14,3
Density (g/cm³):	10,7
Vickers hardness (HV5):	310

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-830 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1160-1265 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy MISTRAL

CE 0546

Components

Pd	78,8%	Ir	<1%	
Au	2%			
Cu	10%			
Ga	9%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	860
Expansion coeff. 20-500 °C:	13,8
Density (g/cm^3):	10,6
Vickers hardness (HV5):	385

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1125-1295 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy FOEHN

CE 0546

Components

Pd	52,4%	Sn	4%	
Ag	21,5%	Ga	1%	
Au	15%	Ru	<1%	
In	6%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	560
Expansion coeff. 20-500 °C:	13,7
Density (g/cm^3):	11,6
Vickers hardness (HV5):	325

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1225-1315 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy ASTRAL

CE 0546

Components

Au	39%	Sn	5%	
Pd	35%	Ru	<1%	
Pt	1%	In	<1%	
Ag	19,4%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	375
Expansion coeff. 20-500 °C:	14,0
Density (g/cm^3):	13,1
Vickers hardness (HV5):	245

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 830-850 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1245-1350 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 3 1110°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy QUASAR

CE 0546

Components

Au	45%	Ga	1,5%	
Pd	40%	Ru	<1%	
Ag	4,9%			
In	8,5%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	465
Expansion coeff. 20-500 °C:	13,7
Density (g/cm^3):	13,5
Vickers hardness (HV5):	280

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1265-1355 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 3 1110°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy FLY

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Components

Au	51,5%	Ru	<1%		
Pd	38,4%				
In	8,5%				
Ga	1,5%				

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	500
Expansion coeff. 20-500 °C:	13,7
Density (g/cm^3):	13,9
Vickers hardness (HV5):	250

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 830-850 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1210-1335 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 3 1110°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy WIMP

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Components

Au	52,5%	Sn	2%	
Pd	26,9%	Ru	<1%	
Ag	16%			
In	2,5%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	440
Expansion coeff. 20-500 °C:	14,3
Density (g/cm^3):	13,9
Vickers hardness (HV5):	230

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-850 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1210-1310 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 3 1110°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

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Porcelain alloy STAR

CE 0546

Components

Au	76,6%	In	1,7%	Sn	<1%
Pt	10%	Ru	<1%		
Pd	9,5%	Cu	<1%		
Ag	1,2%	Fe	<1%		

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	435
Expansion coeff. 20-500 °C:	13,9
Density (g/cm^3):	17,1
Vickers hardness (HV5):	220

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1165-1255 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy BIENORM 2

CE 0546

Components

Au	73,8%	Ir	<1%	
Pt	9%	Rh	<1%	
Ag	13,6%	Ta	<1%	
Zn	2%	In	<1%	

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	340
Expansion coeff. 20-500 °C:	16,2
Density (g/cm^3):	16,8
Vickers hardness (HV5):	230

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use graphite-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 700-720 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1010-1120 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 800°C with vacuum for 10 minutes.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 880 880°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy BIENORM C

CE 0546

Components

Au	59,8%	Zn	3,5%	
Pt	5,9%	In	1,5%	
Pd	4,9%	Ir	<1%	
Ag	24,3%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	585
Expansion coeff. 20-500 °C:	16,6
Density (g/cm^3):	14,8
Vickers hardness (HV5):	245

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use graphite-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 700-720 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 980-1100 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 800°C with vacuum for 10 minutes.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 880 880°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy BIALLOY LF2

CE 0546

Components

Ag	51,8%	Sn	2,1%	
Pd	39,8%	Ru	<1%	
Zn	4%			
In	2,1%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	385
Expansion coeff. 20-500 °C:	16,0
Density (g/cm^3):	10,7
Vickers hardness (HV5):	285

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 700-720 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1130-1205 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 900°C with vacuum for 10 minutes.

Porcelain application
Use only a low fusing high expansion porcelains. Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 1 1025°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy BIALLOY LF4

CE 0546

Components

Au	57,1%	Ru	<1%		
Pd	9%				
Ag	30,5%				
In	3%				

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	405
Expansion coeff. 20-500 °C:	16,5
Density (g/cm^3):	14,2
Vickers hardness (HV5):	210

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1055-1130 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 800°C with vacuum for 10 minutes.

Porcelain application
Use only a low fusing high expansion porcelains. Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 1 1025°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy BIALLOY 75

CE 0546

Components

Au	75,1%	Sn	1%	
Pd	12%	Ir	<1%	
Ag	10%			
In	1,8%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	505
Expansion coeff. 20-500 °C:	14,3
Density (g/cm^3):	16,1
Vickers hardness (HV5):	255

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1140-1255 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidati
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 980°C and heat-soak for 5 minutes.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 2 1070°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy BIALLOY 85H

CE 0546

Components

Au	86%	Ta	<1%	
Pt	11%	Zn	<1%	
In	1,7%			
Rh	<1%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	405
Expansion coeff. 20-500 °C:	14,0
Density (g/cm^3):	18,9
Vickers hardness (HV5):	220

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1060-1195 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 900°C and heat-soak for 10 minutes.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 1 1025°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy BIALLOY LF1

CE 0546

Components

Au	32%	Ir	<1%	
Pd	19,9%			
Ag	35,5%			
In	12,5%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	455
Expansion coeff. 20-500 °C:	17,0
Density (g/cm^3):	12,2
Vickers hardness (HV5):	220

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 995-1070 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 800°C with vacuum for 10 minutes.

Porcelain application
Use only a low fusing high expansion porcelains. Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 880°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
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Porcelain alloy BIALLOY LF3

CE 0546

Components

Au	38,4%	Ir	<1%	
Pd	15%			
Ag	37,5%			
In	9%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	445
Expansion coeff. 20-500 °C:	16,7
Density (g/cm^3):	12,6
Vickers hardness (HV5):	260

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 780-820 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1010-1100 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting, grid-blasted with alumina first, in a furnace at 800°C with vacuum for 10 minutes.

Porcelain application
Use only a low fusing high expansion porcelains. Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 880°C. Post-soldering with BIESOLDER L 720°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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Porcelain alloy YORK

CE 0546

Components

Pd	56%	In	1%	
Ag	32%	Ru	<1%	
Sn	9%			
Ga	2%			

Ni, Be, Cd alloy free

Technical data (hardened values)

Type:	4
Yeld strength (0,2% MPa):	530
Expansion coeff. 20-500 °C:	14,7
Density (g/cm^3):	10,5
Vickers hardness (HV5):	285

Working indications

Waxing
Apply wax to your model with a minimum wax thickness of 0.5 mm.

Sprueing
Conventional sprueing techniques are adequate. However, the addition of vents and feeder heads can contribute to a better casting.

Investing
Use phosphate-based investments according to the manufacturer's instructions.

Burn-out
Heat the cylinder to a final temperature of 800-830 °C and heat-soak for 30-60 minutes, depending on the cylinder size.

Melting and casting
For best results, we always recommend to use new alloy. If alloy residues from previous melting operations are to be reemploy, always add them to new alloy which must be at least 50% of the total material. Old alloy residues should be thoroughly sand-blasted with alumina, cut into small pieces (2-3 g. approximately), and then melted in a pre-heated crucible before adding the new alloy. The melting range of this alloy is 1080-1200 °C. The casting temperature depends on the casting procedure followed. For electric muffles, induction casting or pressure casting procedures, we recommend to increase the liquidus temperature by 50-120°C depending on the performance of the system used. Once in the liquidus state, heat-soak for 10-15 seconds before pouring. For centrifugal casting machines, we recommend to centrifuge for at least 40 seconds and up to 120 seconds, depending on the cylinder size. Allow cooling at room temperature.

Oxidation
Place the casting in a furnace pre-heated to 600°C with vacuum. Raise the temperature to 930°C and heat-soak for 5 minutes without vacuum.

Porcelain application
Apply the opaque and the porcelain following the manufacturer's instructions.

Recommended solders
For pre-soldering BIESOLDER 1 1025°C. Post-soldering with BIESOLDER M 760°C.

Warnings
- Preserve the product within its package until its complete use.
- The package should not be expose to humidity, excessive heat and corrosive substances.
- The product performances may change, also in safety terms, whenever the transformation and the manufacturing operations do not meet the requirements of the technological progress or when the the working process spoils the product.
- BIESSE is not responsible for negative results deriving from an improper use of the alloy.

Suggestions
- When using an alloy to build a dental prothesis, be certain, together with the dentist, that the conditions of the oral cavity of the patient do not create chemical or electrochemical reactions with the material employed.
- The alloy, as well as any other product, may create intolerance reactions. It is though necessary to get all the information abou the patient.
- In order to assure the traceability of the product, the employer has to keep all the prothesis necessary documents.

Note
- To notify any incident occuring after the 'put into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

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