

# Instructions for use

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

## Casting alloy **N**

  
 0546

Components

Ag	68%	Ru	<1%	
Pd	14,9%			
In	15%			
Zn	2%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	370
Density (g/cm <sup>3</sup> ):	9,8
Vickers hardness (HV5):	140

## 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 700-730°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 960-1055°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.

### Recommended solders

BIESOLDER HE 800°C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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 'putting into service' or unusual performances of the alloy during processing, please contact immediately the Biesse Quality Assurance Manager.

# Instructions for use

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## Casting alloy **E+**

  
 0546

Components

Ag	68%	Sn	<1%	
Pd	24,2%	Pt	<1%	
In	3,9%	Ru	<1%	
Zn	2,5%	Au	<1%	

Ni, Be, Cd alloy free

Technical data

Type:	3
Yield strength (0,2% MPa):	275
Density (g/cm <sup>3</sup> ):	9,8
Vickers hardness (HV5):	200

## 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 700-730°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 1015-1070°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.

### Recommended solders

BIESOLDER HE 800°C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **BIECAST**

  
 0546

Components

Au	4%	Zn	1%	
Pd	29,7%	Ru	<1%	
Ag	49%			
Cu	16%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	560
Density (g/cm <sup>3</sup> ):	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 graphite-based investments according to the manufacturer's instructions.

### Burn-out

Heat the cylinder to a final temperature of 700-730°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 970-1030°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.

### Recommended solders

BIESOLDER HE 800°C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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.
- BIESE 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 about 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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# Instructions for use

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## Casting alloy **G**

  
 0546

Components

Ag	59,9%	Zn	1%	
Pd	20%	Ru	<1%	
Au	10%			
Cu	9%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	510
Density (g/cm <sup>3</sup> ):	10,5
Vickers hardness (HV5):	200

## 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 700-730°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 940-1040°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.

### Recommended solders

BIESOLDER HE 800°C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **1**

**Components**

Ag	44,5%	Zn	5%	
Au	30%	Ru	<1%	
Pd	10,5%			
In	10%			

Ni, Be, Cd alloy free

**Technical data**

Type:	4
Yield strength (0,2% MPa):	305
Density (g/cm <sup>3</sup> ):	11,4
Vickers hardness (HV5):	145



0546

4

305

11,4

145

## 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 810-920 °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.

### Recommended solders

BIESOLDER L 720°C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **2**

  
 0546

Components

Ag	44%	Zn	1%	
Au	40%	Ir	<1%	
Cu	9%			
Pd	6%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength:	615
Density (g/cm <sup>3</sup> ):	11,6
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 880-970 °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.

### Recommended solders

BIESOLDER L 720 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **3**

  
 0546

Components

Au	46%	Zn	1%	
Ag	39,5%	Ir	<1%	
Cu	7,5%			
Pd	6%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	615
Density (g/cm <sup>3</sup> ):	12
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 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 900-990 °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.

### Recommended solders

BIESOLDER M 760 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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**Casting alloy 3/M**

**CE**  
0546

Components	Au	50%	In	<1%	
	Ag	26%	Zn	<1%	
	Cu	18%	Ir	<1%	
	Pd	5%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	645
Density (g/cm <sup>3</sup> ):	12,6
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 graphite-based investments according to the manufacturer's instructions.

### Burn-out

Heat the cylinder to a final temperature of 680-700°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 855-910 °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.

### Recommended solders

BIESOLDER L 720 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **3/S**

  
 0546

Components

Au	52%	Pt	1%	
Ag	33,5%	In	<1%	
Cu	9,5%	Zn	<1%	
Pd	3%	Ir	<1%	

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	635
Density (g/cm <sup>3</sup> ):	12,8
Vickers hardness (HV5):	240

## 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 680-700°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 870-950 °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.

### Recommended solders

BIESOLDER L 720 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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# Instructions for use

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## Casting alloy **4**

  
 0546

Components

Au	56%	Zn	1%	
Ag	25%	Ir	<1%	
Cu	14%	Ir	<1%	
Pd	3,8%			

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	835
Density (g/cm <sup>3</sup> ):	12,5
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 graphite-based investments according to the manufacturer's instructions.

### Burn-out

Heat the cylinder to a final temperature of 680-700°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 860-930 °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.

### Recommended solders

BIESOLDER L 720 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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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## Instructions for use

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### Casting alloy **5/S**


  
0546

Components

Au	59%	Pt	1,5%	
Ag	24%	Zn	1%	
Cu	10%	Ir	<1%	
Pd	4%	In	<1%	

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	765
Density (g/cm <sup>3</sup> ):	13,0
Vickers hardness (HV5):	265

### 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 680-700°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 885-960 °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.

#### Recommended solders

BIESOLDER L 720 °C

#### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

#### 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 about 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.

# Instructions for use

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

## Casting alloy **6/S**

  
 0546

Components

Au	64,5%	Pt	1,5%	
Ag	18,4%	In	1%	
Cu	10%	Zn	1%	
Pd	3,5%	Ir	<1%	

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	710
Density (g/cm <sup>3</sup> ):	14,0
Vickers hardness (HV5):	265

## 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 680-700°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 890-965 °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.

### Recommended solders

BIESOLDER L 720 °C

### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

### 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 about 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.



## Instructions for use

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### Casting alloy **7/S**

  
 0546

Components

Au	69,5%	Pt	2%	Sn	<1%
Ag	13,4%	Zn	1,2%		
Cu	10%	In	<1%		
Pd	3,5%	Ir	<1%		

Ni, Be, Cd alloy free

Technical data

Type:	4
Yield strength (0,2% MPa):	640
Density (g/cm <sup>3</sup> ):	14,2
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 680-700°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 905-975 °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.

#### Recommended solders

BIESOLDER M 760 °C

#### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

#### 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 about 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.

## Instructions for use

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### Casting alloy **BIECAST 71**

  
0546

**Components**

Au	71%	Ir	<1%	
Pt	3,9%	Zn	<1%	
Ag	12,3%			
Cu	12,2%			

Ni, Be, Cd alloy free

**Technical data**

Type:	4
Yield strength (0,2% MPa):	700
Density (g/cm <sup>3</sup> ):	15,3
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 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 930-1000 °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.

#### Recommended solders

BIESOLDER M 760 °C

#### Pickling

The melting or solder oxidation can be eliminate with the sand-blast. Whenever in need of using acid solutions, it is advised to employ only the sulfuric ones.

#### 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.
- BIESESE 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 about 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.