

HILDERBRAND®  
Precious Metal Brazing Pastes and Powders



# HILDERBRAND® brazing pastes

## Expertise, quality and reliability

HILDERBRAND® brazing pastes, which are often also called soldering pastes, are a homogeneous mixture of brazing alloy powder with a binder and, in certain cases, with a flux, depending on the heating technique. The alloy powder has the function of melting at the desired temperature, filling the gap by capillarity and assuring the joint strength after solidification. The binder assures easy and consistent dispensing and decomposes upon heating without leaving a residue. A flux is added when the parts to be brazed are heavily oxidized or when heating is done in air.

### Features and Benefits

- Improved production rate (time saving)
- Very precise deposit of brazing alloy (material savings)
- Brazing alloy and flux application in one step
- Easy to use
- The process can easily be automatized
- Focus on health and safety of users
- Non-drying

### Swiss Made - High quality products

HILDERBRAND® solder pastes are products of the highest quality. To meet the highest requirements of the jewellery and watch industry and follow a responsible business policy, HILDERBRAND® is certified according to international quality management systems.

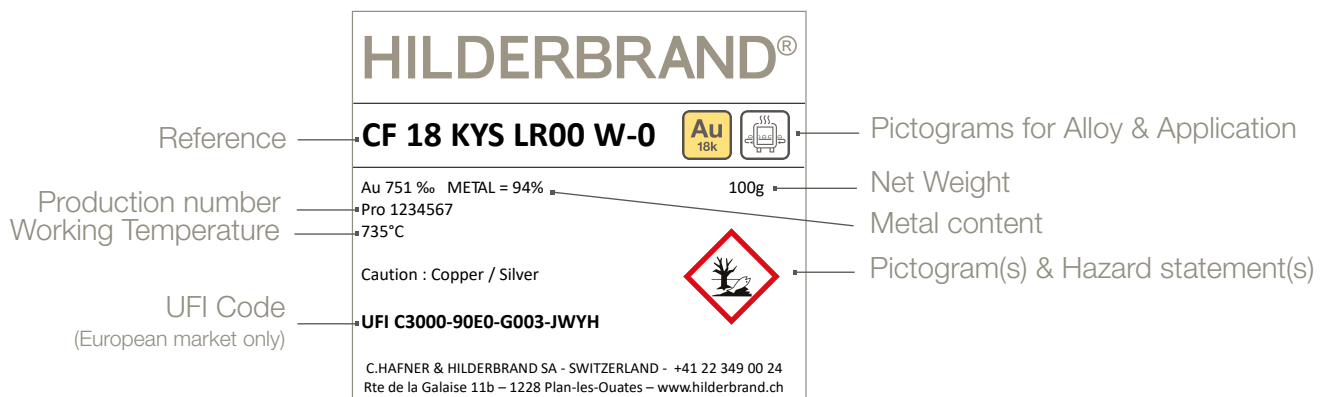
- C.HAFNER & HILDERBRAND SA is **CoC and CoP certified** in order to guarantee a responsible supply chain for precious metals, in strict compliance with the ethical criteria defined by the Responsible Jewellery Council (RJC).
- C.HAFNER & HILDERBRAND SA received the **ISO certification** in 1999.
- All our products are compliant with **REACH and ROHS** regulations.

### Premium Customer Service

- Expert advice based on over 50 years of experience
- Solutions to special requests
- Training courses available
- Delivery in standard packaging or according to customer needs
- Very short delivery time



## Identification, labeling and packaging codes of HILDERBRAND® brazing pastes



CF = Cadmium free

CNF = Cadmium and nickel free

### A) Alloy

Refer to the lists of brazing alloys & indicated in the reference

### B) Color

Refer to the lists of brazing alloys

Y	Yellow
W	White
P	Pink
R	Red

### C) Working temperature

Refer to the lists of brazing alloys

H	Hard
MH	Medium-Hard
M	Medium
S	Soft
ES	Extra-Soft

### D) Flux-binder / binder

For torch :  
H722, H511, LR04,...

For resistance or induction heating :  
H9121, H9129, J2237,...

For furnace under protective atmosphere :

H350, H720, LR00, ...  
For vacuum furnace :  
LR00-7, ...

### E) Alloy powder content

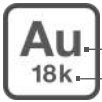
For torch, resistance and induction heating :  
E 65% / J 78%

For furnace under protective atmosphere :  
R 89% / T 91% / W 94%

## Identification code HILDERBRAND® brazing pastes

As our products comply strictly with the regulatory requirements of each country, labelling and/or packaging may vary according to local legislation.

### 1) Brazing Alloys



Gold alloy  
Title of the alloy



Palladium brazing alloys



Brazing alloys for platinum alloys



Silver alloy 1<sup>st</sup> or 2<sup>nd</sup> title  
Compatible title for jewelry

### 2) Applications



Torch



Furnace



Induction

### 3) Regulatory pictograms



Please refer to the safety data sheets for each part number for more details about the safety of our products.

### 4) Additional information for the European Economic Area (EEA)

UFI code = Unique Formulation Identification such as **C300-90E0-G003-JWYH**

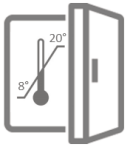
This is a 16-character code which must appear on the label or on the product containing a hazardous mixture, close to the trade name or hazard information according to the new European regulations for the European market only.

## Good practice in the use of paste solders

### Long-term storage :

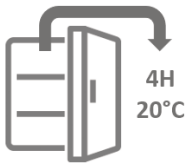


Pastes do not contain water-based products; naturally, they do not dry out over time. They are, however, sensitive to temperature variations. They can be stored for long periods (over 2 years) away from light and in a cool to temperate environment.



For long-term storage, we ideally recommend placing paste solders at a temperature between 8°C and 16°C. It is important not to store them at temperatures above 20°C, and to avoid cyclical variations in storage temperature that could cause irreversible product degradation.

### Current use :



The ideal temperature for using paste solders is 20°C. Their viscosity can vary considerably with temperature; to avoid any possible demixing between the different constituents of the product, it is important, in the case of storage in a cool environment, to allow the product to temper for about an hour at room temperature before use.

### Working temperature and use of pastes :



Paste brazing filler metals are alloys with a wide or narrow melting range. The working temperature stipulated on the label indicates the minimum temperature at which the filler metal becomes liquid. In practice, it is important to heat to a temperature above this working temperature. For furnace applications, the set temperature should be adjusted to around 100°C above the working temperature indicated on the label, except for rose or red golds. Contact us for further information.

### Granulometry and tips diameter :

Powder particle size

- 2 Standard
- 1 Fine
- 0 Extra-fine

Colors of compatible tips


















# HILDERBRAND®












## Precious metal brazing pastes and powders

### Gold Brazing Alloys

#### 18 Karat









Designation	Pd	Ni	Color	Working Temp.	Au ‰	Application
CF 18KYH		no		840 °C	751	Brazing 18 karat yellow gold
CF 18KYM		no		800 °C	751	Brazing 18 karat yellow gold
CF 18KYS		no		735 °C	751	Brazing 18 karat yellow gold
CF 18K3NX2		no		720 °C	751	Brazing 18 karat yellow gold
CF 18KYES6		no		670 °C	751	Brazing 18 karat yellow gold
CF 18KYES2		no		630 °C	751	Brazing 18 karat yellow gold
CNF 18KWH	yes	no		870 °C	751	Brazing 18 karat white gold
CNF 18KWM	yes	no		820 °C	751	Brazing 18 karat white gold
CNF 18KWS2	yes	no		770 °C	751	Brazing 18 karat white gold
CNF 18KWES		no		750 °C	751	Brazing 18 karat white gold
CF 18KRH2		no		820 °C	751	Brazing 18 karat red gold
CF 18KRM2		no		790 °C	751	Brazing 18 karat red gold
CF 18KPM		no		770 °C	751	Brazing 18 karat pink gold
CF 18KPS2		no		720 °C	751	Brazing 18 karat pink gold
CF 18KPS		no		710 °C	751	Brazing 18 karat pink gold

#### 14 Karat













Designation	Pd	Ni	Color	Working Temp.	Au ‰	Application
CF 14KYH		no		785 °C	585	Brazing 14 karat yellow gold
CF 14KYM		no		760 °C	585	Brazing 14 karat yellow gold
CF 14KYS		no		720 °C	585	Brazing 14 karat yellow gold
CF 14KYES		no		630 °C	585	Brazing 14 karat yellow gold
CF 14KYES4		no		610 °C	585	Brazing 14 karat yellow gold
CNF 14KWH	yes	no		810 °C	585	Brazing 14 karat white gold
CNF 14KWM	yes	no		770 °C	585	Brazing 14 karat white gold
CNF 14KWS2	yes	no		730 °C	585	Brazing 14 karat white gold
CNF 14KWES		no		710 °C	585	Brazing 14 karat white gold
CF 14KRH		no		780 °C	585	Brazing 14 karat red gold
CF 14KPS		no		730 °C	585	Brazing 14 karat pink gold

All brazing alloys are also available as powders.

## 9 Karat

Designation	Pd	Ni	Color	Working Temp.	Au % <sub>00</sub>	Application
CF 9KYH		no		742 °C	375	Brazing 9 karat yellow gold
CF 9KYM		no		720 °C	375	Brazing 9 karat yellow gold
CF 9KYS		no		700 °C	375	Brazing 9 karat yellow gold
CF 9KYES2		no		680 °C	375	Brazing 9 karat yellow gold
CF 9KXS		no		550 °C	375	Brazing 9 karat white gold
CF 9KWS		yes		710 °C	375	Brazing 9 karat white gold
CNF 9KWES		no		650 °C	375	Brazing 9 karat white gold
CF 9KPS		no		770 °C	375	Brazing 9 karat pink gold

## Other Karats

Designation	Pd	Ni	Color	Working Temp.	Au % <sub>00</sub>	Application
CF 12KYS		no		755 °C	500	Brazing 12 karat yellow gold
CF 12KYES		no		715 °C	500	Brazing 12 karat yellow gold
CF 10KYS		no		690 °C	416	Brazing 10 karat yellow gold
CF 10KWS		yes		735 °C	416	Brazing 10 karat white gold
CNF 10KWES		no		630 °C	416	and gold to stainless steel
CF 10KPS		no		760 °C	416	Brazing 10 karat pink gold
CF 8KYS		no		695 °C	333	Brazing 8 karat yellow gold
CF 950		no		750 °C	950	Brazing 24 karat yellow gold
CF 22KYES		no		810 °C	916	Brazing 22 karat yellow gold
CF 21KYS		no		770 °C	875	Brazing 21 karat yellow gold
CF 19.2KPS		no		760 °C	800	Brazing 19.2 karat pink gold
CF 800		no		280 °C	800	Brazing At low temperature

## Brazing Alloys for Platinum

Designation	Pd	Ni	Working Temp.	Application
CF PDA	yes	no	1000 °C	Platinum
CF PTM	yes	no	920 °C	Platinum
CF PTS	yes	no	880 °C	Platinum

## Palladium Brazing Alloys

Designation	Composition	Working Temp.	Application
CF PDXT2	Pd/Ag/Cu	970 °C	Stainless steel, good corrosion resistance
CF PDXT	Pd/Ag/Cu	950 °C	Stainless steel, good corrosion resistance
CF PD	Pd/Ag/Cu	900 °C	Stainless steel
CF PD100	Pd/Ag/Cu	850 °C	Stainless steel
CF PDAG	Pd/Ag/Ga	880 °C	Titanium

All brazing alloys are also available as powders.

## Silver Brazing Alloys

Designation	Composition	Working Temp.	Application
CF 75	Ag/Cu/Zn	770 °C	Silver 925/1000
CF 72	Ag/Cu	775 °C	Vacuum brazing, vacuum components
CF 70	Ag/Cu/Zn	730 °C	Silver 925/1000
CF 67	Ag/Cu/Zn	680 °C	Silver 925/1000
CF 67AT	Ag/Cu/Zn	680 °C	Silver 925/1000 anti-tarnishing
CF 65	Ag/Cu/Zn	690 °C	Silver 925/1000
CF 65-2	Ag/Cu/Zn/Sn	640 °C	Silver 925/1000, low melting temperature
CF 60-1	Ag/Cu/Sn	720 °C	Food industry equipment, silver 800/1000
CF 56-2	Ag/Cu/Ni	895 °C	Stainless steel (for furnace brazing)
CF 56-4	Ag/Cu/Ni/In	720 °C	Stainless steel, copper and nickel alloys
CF 56	Ag/Cu/Zn/Sn	650 °C	Multipurpose brazing alloy, excellent fluidity, silver 800/1000
CF 54	Ag/Cu/Zn/Sn	630 °C	Multipurpose brazing alloy, very low working temperature
CF 50-2	Ag/Cu/Zn/Ni	680 °C	High mechanical strength, steel, copper alloys
CF 49-4	Ag/Cu/Zn/Ni/Mn	670 °C	Tungsten carbide inserts
CF 45	Ag/Cu/Zn/Sn	640 °C	Steel, copper alloys, electrical contacts
CF 42	Ag/Cu/Sn	570 °C	Very low working temperature, limited mechanical strength
CF 40	Ag/Cu/Zn/Sn	690 °C	Low working temperature, very high fluidity
CF 25	Ag/Cu/Zn/Sn	760 °C	Iron, copper and nickel alloys
CF 20	Ag/Cu/Zn/Si	810 °C	Copper alloys, steel (bronze color)
CF 5	Ag/Cu/Zn	870 °C	Steel (brass color)

## Active Brazing Alloys

CF 72 Ti	Ag/Cu/Ti	900 °C	Titanium and ceramic
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## Other Brazing Alloys

Designation	Composition	Working Temp.	Application
<b>Copper</b>			
CF Cu	Cu	1083 °C	Steel
CF CuMn3	Cu/Mn/Ni	1000 °C	Tungsten carbides to steel
CF 6-1	Cu/P/Ag	705 °C	Copper and nickel alloys, eyeglass industry
CF 0-6	Cu/P/Sn	700 °C	Copper and nickel alloys, eyeglass industry
<b>Nickel</b>			
CF 16H / CF 5H	Ni/Cr/P	890 °C / 950 °C	Stainless steel, excellent corrosion resistance, high fluidity, very hard, brittle
CF 18H	Ni/Cr/Si/Fe/B	1000 °C	Stainless steel, excellent corrosion resistance, high fluidity
<b>Tin</b>			
CF 96-40	Sn/Ag	221 °C	Low temperature soldering

All brazing alloys are also available as powders.



Precious metal powders can be used for innovative applications such as Selective Laser Melting (SLM), Metal Injection Molding (MIM) and powder spraying.

## HILDERBRAND®

### Silver Alloy Powders

Designation	Color	Description
PM Ag935	<input type="checkbox"/>	935 Silver alloy powder (tarnish reduced)
PM Ag925	<input type="checkbox"/>	Sterling silver powder
PM Ag800	<input type="checkbox"/>	800 Silver alloy powder

### Pure Metal Powders

Designation	Color	Description
Au 999	<input type="checkbox"/>	Fine Gold powder
Pt 999	<input type="checkbox"/>	Fine Platinum powder
Pd 999	<input type="checkbox"/>	Fine Palladium powder
Ag 999	<input type="checkbox"/>	Fine Silver powder

ceha **POWDER**  
Precious metal powders

### Platinum Alloy Powders

Designation	Color	Description
952 PT P1 PtRu	<input type="checkbox"/>	Platinum with 48 % Ruthenium
951 PT P1 PtAu2	<input type="checkbox"/>	PlatinGoldl® with 20 % Gold
900 PT P2 PtRh10	<input type="checkbox"/>	Platinum with 100 % Rhodium
900 PT P1 PtIr10	<input type="checkbox"/>	Platinum mit 100 % Iridium
800 PT P1 PtIr20	<input type="checkbox"/>	Platinum mit 200 % Iridium

### Gold Alloy Powders

Designation	Color	Description
PM 18K3N 751 GG P5	<input type="checkbox"/>	18 karat yellow Gold (3N) powder
PM 18K4N 751 RS P5	<input type="checkbox"/>	18 karat pink Gold (4N) powder
PM 18K5N 751 RT P5	<input type="checkbox"/>	18 karat red Gold (5N) powder
PM 18KPd130 751 WG P2	<input type="checkbox"/>	18 karat white Gold powder with 130 % Pd
PM 18KPd150 751 WG P1	<input type="checkbox"/>	18 karat white Gold powder with 150 % Pd

### Palladium Alloy Powders

Designation	Couleur	Description
PM Pd500Rh	<input type="checkbox"/>	Palladin Royal® - Palladium Rhodium Powder alloys

Other compositions are available on request.  
The particle size distribution can be adjusted to the needs of the customer.



### **Mission & Vision**

C.HAFNER & HILDERBRAND SA provides metal joining solutions primarily focused on HILDERBRAND® precious metal brazing pastes. Our products meet the highest requirements for any luxury & industry customer in search of the finest Swiss Made quality. We deliver our products worldwide. By extension we provide precious metal alloys including but not limited to gold, palladium, platinum and silver alloys. We are committed to supporting our customers needs in semi-finished precious metal products, powders or finished components.

Swiss-based company

**World-renowned expertise**

Customer-oriented

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