



## PRODUCT & SERVICES CATALOG

**United**  
PRECIOUS METAL REFINING, INC.

*Certified as Environmentally & Ethically Responsible*  
800.999.FINE • [UnitedPMR.com](http://UnitedPMR.com)

REFINING • PRODUCTS • ANALYTICAL

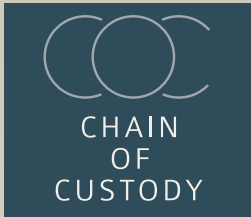
# Maintaining the Highest Standards in Our Industry

*Sustainable and certified as environmentally and ethically responsible, we are the largest U.S. owned full service refiner, recycling precious metals for the jewelry industry.*



## Responsible Jewellery Council (RJC): Code of Practices

The RJC – COP provides the guidelines which define the criteria for the ethical, social, human rights, and environmental standards for responsible business practices throughout the jewelry supply chain. UPMR has held this certification since 2016. This certification indicates an assurance to our customers and business partners that we conduct our business responsibly.



## RJC Chain-of-Custody Standard (COC)

Chain of Custody (COC) is a documented sequence of custody of material as it moves along the supply chain. The RJC's COC certification, which UPMR has held since 2022, defines the requirements for creating a COC of precious metals that are responsibly produced, processed and traded through jewellery supply chains, and that are third-party assured at every stage.



## SCS: Global Services

SCS Global is a third-party certification, verification and validation service. UPMR's fine gold, silver, platinum, palladium has been certified as being from 100% Recycled Sources. We have held this certification since 2012.



## Responsible Minerals Initiative (RMI – RMAP)

The RMI defines the standard for smelters and refiners that participate in the RMAP (Responsible Minerals Assurance Program). This standard conducts assurance testing to warrant that UPMR conducts its due-diligence in accordance with internationally recognized frameworks, most notably, the OECD Minerals Due Diligence Guidance for Responsible Supply Chains - Supplement on Gold (Annex II). UPMR has been determined to be a Conformant Gold Smelter – and is in compliance with the RMAP standards (or its predecessor, the EICC – GeSI) since 2014.



## COMEX Approved Gold

UPMR has been designated as an "approved" refiner for delivery of gold bars against the COMEX Gold futures contracts. UPMR has held this distinction since 2014.

## Conflict Free Gold

UPMR has been assessed as a Conformant Gold Refiner by the Responsible Minerals Initiative and is in compliance with the RMAP (Responsible Minerals Assurance Program) as a "Conflict-Free" smelter in gold. It is our policy not to conduct business with any counterparty that takes any material from any country or region which we believe was obtained with methods involving exploitation or other serious human rights violations or which may, directly or indirectly, support or benefit armed rebels or terrorist groups through illegal finance or other activities. UPMR has also been in compliance with the Dodd-Frank – Section 1502 from its enactment and has historically been committed to responsible sourcing of gold since our inception.



## United Re-Defined Environmentally Responsible

Our special combination of technology, prompt service, several settlement options, and commitment to environmental responsibility has made many of our customers refer to us as their "Refiner of Choice."





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## ABOUT US

UPMR is a leading supplier of master alloys, de-oxidized sterling silver, solder, and wire products. Further, UPMR is the largest privately owned full-service refiner of precious metals in the United States. Our success in the precious metal industry is due to our exceptional attention to detail and superior customer service. The technical expertise within UPMR is unmatched in the industry.

What drives us at UPMR is quality. This begins with the sourcing of material and extends to the diligence performed to create a superior product. Behind these products is our technical knowledge to provide support to allow them to work in your processes in the most advantageous way.

Founded in the jewelry industry, UPMR understands the equipment and knowledge required for jewelry manufacturing. Our research and development teams are available to assist you with any inquiries concerning our products and their applications.

## OUR PHILOSOPHY

Our philosophy is that our success can only come from your success. We will continue to strive to make your company more productive with improved products and innovative services.

## OUR MISSION

UPMR's mission is to achieve success by creating a superior customer experience through our products, customer support, and our commitment to unmatched quality.

# MASTER ALLOYS FOR INVESTMENT CASTING



## 9K - 14K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
200	BRIGHT YELLOW	9K-14K	LOW SILVER, HIGH REUSABILITY FOR OPEN SYSTEMS
204	STANDARD YELLOW	9K-14K	LOW SILVER, HIGH REUSABILITY FOR ENCLOSED MACHINES
210	STANDARD YELLOW	9K-14K	FOR LOW WEIGHT APPLICATIONS
220	STANDARD YELLOW	9K-14K	LOW SILVER, HIGH REUSABILITY FOR OPEN SYSTEMS
230	STANDARD YELLOW	9K-14K	LOW ZINC, HIGH REUSABILITY
231	STANDARD YELLOW	9K-14K	LOW DE-OX VERSION OF #230
232	DARK YELLOW	9K-14K	HIGH PERFORMANCE, STONE-IN-PLACE
240	TINT OF GREENISH YELLOW	9K-14K	HIGH TARNISH RESISTANCE & REUSABILITY
241	RICH YELLOW	9K-14K	LOW ZINC, HIGH PERFORMANCE ALLOY
260	LIGHT GREENISH YELLOW	9K-14K	HIGH REUSABILITY, EUROPEAN 3N COLOR
263	GREENISH YELLOW	14K	EUROPEAN 3N COLOR
264	GREENISH YELLOW	9K-14K	HIGH REUSABILITY, EUROPEAN 3N COLOR
265	EUROPEAN YELLOW	9K-14K	EUROPEAN 3 N COLOR, HIGH TARNISH RESISTANCE
270	LIGHT YELLOW	9K-14K	GOOD WEARABILITY, TARNISH RESISTANCE
278	GREENISH YELLOW	9K-14K	HIGH FLUIDITY & TARNISH RESISTANT, STONE-IN-PLACE
280	RICH YELLOW	9K-14K	STONE-IN-PLACE, HIGH REUSABILITY & TARNISH RESISTANCE
285	RICH REDDISH YELLOW	9K-14K	STONE-IN-PLACE, HIGH REUSABILITY & TARNISH RESISTANCE
290	RICH REDDISH YELLOW	9K-14K	HIGH PERFORMANCE, HIGH REUSABILITY & TARNISH RESISTANCE
821	LIGHT YELLOW	9K-14K	GRAIN REFINED, HARD, HIGH SURFACE LUSTER
823*	MEDIUM YELLOW	9K-14K	COBALT BASED HARD ALLOY
T1	GREENISH YELLOW	9K-14K	LOW SILVER, GOOD TARNISH RESISTANCE
T3	GREENISH YELLOW	9K-14K	LOW SILVER, HIGH REUSABILITY & TARNISH RESISTANCE

### NOTES:

## 9K - 14K Yellow Gold (Special Purpose)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
320	STANDARD YELLOW	9K-14K	YELLOW HARD-SPRING "PING-TONG"

## 9K - 14K Yellow Gold (Ultra Casting Series)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
UA1	RICH REDDISH YELLOW	9K-14K	HIGH PERFORMANCE, HIGH REUSABILITY, HIGH TARNISH RESISTANCE, STONE-IN-PLACE
UA2	STANDARD YELLOW	9K-14K	HIGH PERFORMANCE, HIGH REUSABILITY, HIGH TARNISH RESISTANCE, STONE-IN-PLACE

## 9K - 14K Yellow Gold (Very High Fluidity)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
VHF 1	LIGHT GREENISH YELLOW	9K-14K	HIGH FLUIDITY FOR DELICATE FLIGREE DESIGNS, & STONE-IN-PLACE
VHF 2	STANDARD YELLOW	9K-14K	HIGH FLUIDITY FOR DELICATE FLIGREE DESIGNS, & STONE-IN-PLACE
VHF 3	TINT OF GREENISH YELLOW	9K-14K	STONE-IN-PLACE, HIGH REUSABILITY & TARNISH RESISTANCE
VHF 4	GREENISH YELLOW	9K-14K	HIGH TARNISH RESISTANCE, GOOD FLUIDITY & REUSABILITY
VHF 10	GREENISH YELLOW	9K-14K	HIGH FLUIDITY FOR DELICATE FLIGREE DESIGNS & STONE-IN-PLACE

## 9K - 14K Yellow Gold (Centrifugal & Hand Pouring)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
400	GREENISH YELLOW	9K-14K	NO FIRE-SCALE, HIGH REUSABILITY & TARNISH RESISTANCE
440	STANDARD YELLOW	9K-14K	OPEN MELTING, HIGH REUSABILITY & TARNISH RESISTANCE
450	TINT OF GREENISH YELLOW	9K-14K	OPEN MELTING, HIGH REUSABILITY & EUROPEAN 3N COLOR
630	REDDISH YELLOW	9K-14K	HIGH DE-OX, HIGH REUSABILITY & FLUIDITY

## 18K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
315*	BRIGHT YELLOW	18K	EXCELLENT FOR CASTING & FABRICATION, EUROPEAN 3N COLOR
713	BRIGHT YELLOW	18K	EXCELLENT WORKABILITY, HIGH LUSTER
716*	ITALIAN YELLOW	18K	EXCELLENT WORKABILITY
720	RICH YELLOW	18K	SMOOTH SURFACE, HIGH LUSTER
725*	RICH YELLOW	18K	SAME COLOR AS #720
740*	PALE LIGHT YELLOW	18K	HIGH TARNISH RESISTANCE, HIGH LUSTER
760	GREENISH YELLOW	18K	LOW DE-OX, EUROPEAN 2N COLOR
765*	GREENISH YELLOW	18K	SAME COLOR AS #760
780	LIGHT GREENISH YELLOW	18K	SUITABLE FOR ENAMELING
782*	GREENISH YELLOW	18K	HIGH TARNISH RESISTANCE, GOOD REUSABILITY
790*	DEEP YELLOW	18K	LOW DE-OX, EUROPEAN 4N COLOR
792	DEEP YELLOW	18K	TARNISH RESISTANT VERSION OF #790

SCAN TO  
VIEW  
CASTING  
MASTER  
ALLOYS



**\*ALL-PURPOSE ALLOY  
FOR CASTING &  
FABRICATION  
APPLICATIONS**

Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.



# MASTER ALLOYS FOR INVESTMENT CASTING



## 18K - 22K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
366*	DARK YELLOW	20K-22K	HIGH REUSABILITY, GRAIN REFINED, HARD
367*	DARK YELLOW	20K-22K	LOW SILVER, HIGH FLUIDITY, HIGH REUSABILITY
381*	REDDISH YELLOW	18K-22K	UA1 VERSION FOR HIGHER KARAT APPLICATIONS
384*	DARK YELLOW	20K-22K	LOW SILVER, VERY HARD, HIGH FLUIDITY
385*	DARK YELLOW	20K-22K	LOW SILVER FOR MAKING CHAINS
392*	FINE GOLD	18K-22K	HIGH REUSABILITY, TARNISH RESISTANCE
394*	DARK YELLOW	18K-22K	VERY POPULAR FOR HIGH KARAT JEWELRY PRODUCTION
396*	REDDISH YELLOW	18K-22K	LOW SILVER, HIGH REUSABILITY
821*	STANDARD YELLOW	19K-22K	GRAIN REFINED, HARD, HIGH SURFACE LUSTER
823*	BRIGHT YELLOW	19K-22K	COBALT BASED HARD ALLOY

## 9K - 18K Pink Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
515	LIGHT PINK	18K	SILVER BASED, HIGH FLUIDITY & EXCELLENT WORKABILITY
520	RED	9K-18K	SILVER BASED, USER-FRIENDLY & HIGH REUSABILITY
525	PREMIUM RED	9K-14K	LOW SILVER BASED, USER-FRIENDLY, HIGH REUSABILITY, EUROPEAN 5N COLOR
534*	ROSE PINK	18K	GRAIN REFINED & EXCELLENT WORKABILITY
540	PREMIUM PINK	9K-14K	HIGH FLUIDITY, FOR OPEN MELTING SYSTEMS
543*	DARK PINK	9K-18K	LOW SILVER, HIGH FLUIDITY
544*	PINK	9K-18K	LOW SILVER, HIGH FLUIDITY & REUSABILITY
544M*	PINK	18K	LOW SILVER, HIGH FLUIDITY, HIGH REUSABILITY, GRAIN REFINED
548*	PINK	9K-18K	LOW SILVER, VERY USER-FRIENDLY, ENAMELING
550*	DARK PINK	9K-18K	EXCELLENT WORKABILITY, FABRICATION
554*	BRIGHT RED	9K-18K	LOW SILVER, LOW DE-OX, EUROPEAN 5N COLOR
560	MEDIUM PINK	9K-14K	LOW SILVER, HIGH REUSABILITY

## 9K - 18K Brown Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
BR1*	LIGHT BROWN	9K-18K	LIGHT BROWN CASTING ALLOY

## 10K - 18K Green Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
570*	GREEN	10K-18K	HIGH REUSABILITY, TARNISH RESISTANT & LUSTER
575*	GREEN	10K-18K	VERSATILE ALLOY, ENAMELING
ROM2*	GREEN	18K	VERSATILE ALLOY, ENAMELING

## 9K - 18K Nickel/Nickel - Silver Based White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
862*	ULTRA WHITE	10K-18K	LOW NICKEL MULTI-PURPOSE ALLOY
900	PREMIUM WHITE	9K-18K	SILICON FREE, HIGH FLUIDITY & SURFACE LUSTER
M900	PREMIUM WHITE	9K-18K	SILICON FREE, HIGH FLUIDITY FOR FILIGREE CASTING
907	PREMIUM WHITE	14K-18K	EXCELLENT WHITENESS, RHODIUM PLATING OPTIONAL
908	SUPER WHITE	18K	"PING-TONG" HARD, RHODIUM PLATING OPTIONAL
910	MEDIUM WHITE	9K-18K	LOW NICKEL, HIGH REUSABILITY
915	PREMIUM WHITE	14K-18K	HIGH REUSABILITY & SURFACE LUSTER
917	MEDIUM WHITE	14K	LOW SILVER, HIGH FLUIDITY, HIGH REUSABILITY, GRAIN REFINED
920	MEDIUM WHITE	9K-14K	EXCELLENT FLUIDITY, STONE-IN-PLACE
921	ULTRA WHITE	18K	HIGH FLUIDITY, HIGH REUSABILITY, GRAIN REFINED
925	MEDIUM WHITE	9K-18K	SILICON FREE, HIGH FLUIDITY, STONE-IN-PLACE
930	ULTRA WHITE	9K-18K	HIGH SURFACE LUSTER FOR OPEN SYSTEMS
M930	PREMIUM WHITE	9K-18K	HIGH REUSABILITY, FLUIDITY & SURFACE LUSTER
940	MEDIUM WHITE	9K-14K	LOW NICKEL, FOR OPEN MELTING SYSTEMS
950	MEDIUM WHITE	9K-14K	HIGH FLUIDITY & REUSABILITY
952	ULTRA WHITE	9K-14K	SILVER BASED, HIGH FLUIDITY, STONE-IN-PLACE
954	MEDIUM WHITE	18K	NICKEL SAFE, VERY GOOD FOR CLOSED SYSTEM, RHODIUM PLATING MAY REQUIRE
961	WHITE	14K	HIGH SILVER, NICKEL SAFE, VERY GOOD FOR CLOSED SYSTEM
970	WHITE	9K-14K	SOFT WORKABILITY, FOR OPEN MELTING SYSTEMS
974*	ULTRA WHITE	9K-18K	LOW SILVER, HIGH FLUIDITY, STONE-IN-PLACE
982	ULTRA WHITE	9K-18K	EXCELLENT FLUIDITY, STONE-IN-PLACE
983*	ULTRA WHITE	18K	HIGH FLUIDITY, STONE-IN-PLACE
RM60*	SUPER WHITE	18K-19K	ALL PURPOSE, NICKEL SAFE WHITE GOLD
T5	MEDIUM WHITE	9K-18K	LOW HARDNESS, SUITABLE FOR STONE-IN-PLACE
T7	PREMIUM WHITE	14K-18K	LOW MELTING POINT, HIGH FLUIDITY

## 9K - 14K Nickel & Palladium "Free" White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
936	VANILLA WHITE	9K-10K	HIGH FLUIDITY & USER-FRIENDLY
980	MEDIUM WHITE	9K-10K	EASY WORKABILITY, SOFT
F1	NATURAL WHITE	9K-14K	PATENTED, HIGH FLUIDITY, EXCELLENT COLOR IN 14K
ROM 2*	MEDIUM WHITE	9K-10K	USER-FRIENDLY, SUITABLE FOR EAR-POSTS

### NOTES:

*Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.*



**\*ALL-PURPOSE ALLOY  
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# MASTER ALLOYS FOR INVESTMENT CASTING



## 9K - 18K Palladium White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
PD1	WHITE	9K-14K	SULPHATE BONDED (REGULAR) INVESTMENT POWDER
PD2	VANILLA WHITE	14K-18K	HIGH SURFACE LUSTER, PT. INVESTMENT POWDER RECOMMENDED
PD5*	SILVERY WHITE	9K-14K	LOW PD. CONTENT, SOFT ALLOY, SULPHATE BONDED
PD11	BRIGHT WHITE	18K	USE WITH PT. INVESTMENT POWDER & CASTING MACHINE
PD12	VANILLA WHITE	14K-18K	HIGH SILVER, MODERATE PD, GOOD SURFACE LUSTER, PT INVESTMENT RECOMMENDED
PD16*	SUPER WHITE	18K	USE WITH PT. INVESTMENT POWDER & CASTING MACHINE
PD20*	VANILLA WHITE	14K-18K	EASY WORKABILITY, PT. INVESTMENT POWDER RECOMMENDED

### NOTES:

## .925 Sterling Silver Heat Treatable Alloys

CODE	COLOR	SPECIAL COMMENTS
S 57	ULTRA WHITE	PATENTED DE-OX, FIRE-SCALE & TARNISH RESISTANCE, IMPROVED HARDNESS
S 57 NA*	ULTRA WHITE	PATENTED DE-OX, FIRE-SCALE & TARNISH RESISTANCE, IMPROVED HARDNESS
S 72*	BRILLIANT WHITE	HIGH PERFORMANCE & REUSABILITY
S 86*	ULTRA WHITE	DE-OX, HIGH TARNISH RESISTANCE & FLUIDITY
S 88*	WHITE	DE-OX, HIGH TARNISH RESISTANCE & FLUIDITY
S 92 NA*	BRILLIANT WHITE	HIGH PERFORMANCE FOR ENCLOSED CASTING MACHINES
S 95*	WHITE	SPRING-HARD, TARNISH RESISTANCE
S 97 NA*	SUPER WHITE	DE-OX, HIGH TARNISH RESISTANCE & FLUIDITY
S D*	STANDARD SILVER	PATENTED, DE-OX, SOFT WHITE, TARNISH RESISTANCE

## Non-Sterling Colored Silver

CODE	COLOR	SILVER %	SPECIAL COMMENTS
SY-2*	MEDIUM YELLOW	25	HIGH REUSABILITY, SOFT FOR CASTING & FABRICATION
SY-3	STANDARD YELLOW	15	HIGH REUSABILITY, SOFT FOR CASTING & FABRICATION
SP-3	CARNATION PINK	17	"REDDISH STRIPPED PATTERN" ON SHEETS

## Brass & Bronze

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
330*	YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
332*	REDDISH YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
335*	REDDISH YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
340*	STANDARD YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
341*	ANTIQUE YELLOW	BRONZE	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
342*	STANDARD YELLOW	BRONZE	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
347*	STANDARD YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
350*	GREENISH YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
371*	WHITE	BRONZE	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
372	VANILLA WHITE	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
373*	WHITE	BRONZE	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
650*	STANDARD YELLOW	BRASS	HARD DE-OX BRASS / BRONZE FOR SAMPLE LINES, MODEL MAKING
862*	WHITE	BRASS	NICKEL SILVER, GERMAN SILVER

## 1K - 6K Goldium® Yellow & White Series (Pre-Karated)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
1KYCG1*	LIGHT YELLOW	1K	HIGH HARDNESS, GOOD LUSTER
4KYCG1*	STANDARD YELLOW	4K	HARD, GOOD LUSTER & TARNISH RESISTANCE
5KYCG1	STANDARD YELLOW	5K	HARD, HIGH LUSTER & TARNISH RESISTANCE
5KWCG1	WHITE	5K	BRIGHT, TARNISH RESISTANCE, GOOD LUSTER
6KYCG1*	BRIGHT YELLOW	6K	BRIGHT, SUPER LUSTER & TARNISH RESISTANCE
6KWCG1	VERY WHITE	6K	SUPER LUSTER, TARNISH RESISTANCE & BRIGHT



Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.



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# CONVERSION CHARTS

## FINENESS OF GOLD KARATS

Karat	Decimal Parts of Fine Gold
6K	= .2500
7K	= .2917
8K	= .3333
9K	= .3750
10K	= .4167
11K	= .4583
12K	= .5000
13K	= .5417
14K	= .5833
15K	= .6250
16K	= .6667
17K	= .7083
18K	= .7500
19K	= .7917
20K	= .8333
21K	= .8750
22K	= .9167
23K	= .9583

## UNIT CONVERSIONS

To convert from	To	Multiply by
Carats	DWTs	.12860
Carats	Grams	.2
DWTs	Carats	7.776
DWTs	Grams	1.5552
DWTs	Ounces, Troy	.05
Grams	Carats	5.0
Grams	DWTs	.64301
Inches	Millimeters	25.40
Kilograms	Ounces, Troy	32.1507
Kilograms	DWTs	643.014
Millimeters	Inches	.03937
Ounces, Avoir.	Ounces, Troy	.91146
Ounces, Avoir.	Grams	28.3495
Ounces, Troy	Grams	31.1035
Ounces, Troy	Ounces, Avoir.	1.0971
Pounds, Avoir.	Grams	453.592
Pounds, Avoir.	DWTs	291.666
Pounds, Avoir.	Ounces, Troy	14.583

## FEDERAL STANDARDS FOR PLUMB KARAT ASSAYS

### 10 KARAT

Anything Below .4137 is Underkarated  
Anything Above .4197 is Overkarated

### 14 KARAT

Anything Below .5803 is Underkarated  
Anything Above .5863 is Overkarated

### 18 KARAT

Anything Below .7470 is Underkarated  
Anything Above .7530 is Overkarated

## TEMPERATURE CONVERSIONS

### Celsius to Fahrenheit

$$C \times 1.8 + 32 = F$$

### Fahrenheit to Celsius

$$F - 32 \div 1.8 = C$$

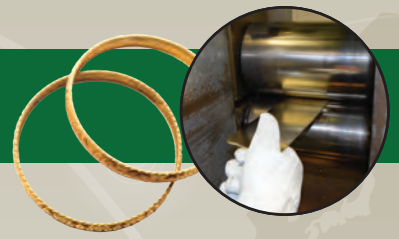
## CONVERSION GRID TO ESTIMATE CASTING WEIGHT IN DIFFERENT METALS

Present Metal

Desired Metal	10K Yellow	10K White	14K Yellow	14K White	18K Yellow	18K White	Sterling Silver	Platinum	10% Ir Platinum	Alloy	24K Fine Gold	Wax
10K Yellow	1.000	1.045	0.885	0.918	0.743	0.790	1.105	0.539	0.537	1.377	0.599	11.570
10K White	0.957	1.000	0.847	0.878	0.711	0.756	1.057	0.516	0.514	1.318	0.573	11.070
14K Yellow	1.130	1.181	1.000	1.036	0.839	0.893	1.248	0.609	0.607	1.556	0.677	13.070
14K White	1.090	1.139	0.965	1.000	0.809	0.861	1.204	0.588	0.585	1.501	0.653	12.610
18K Yellow	1.347	1.407	1.192	1.236	1.000	1.064	1.488	0.726	0.723	1.855	0.806	15.580
18K White	1.265	1.322	1.120	1.161	0.940	1.000	1.398	0.683	0.680	1.743	0.758	14.640
Sterling	0.905	0.946	0.801	0.830	0.672	0.715	1.000	0.488	0.486	1.246	0.542	10.470
Platinum	1.854	1.938	1.641	1.701	1.377	1.465	2.049	1.000	0.996	2.554	1.110	21.450
10% Ir	1.862	1.946	1.648	1.708	1.383	1.471	2.057	1.004	1.000	2.564	1.115	21.540
Alloy	0.726	0.759	0.643	0.666	0.539	0.574	0.802	0.392	0.390	1.000	0.435	8.400
24K	1.670	1.745	1.478	1.532	1.240	1.320	1.845	0.901	0.897	2.300	1.000	19.320



# MASTER ALLOYS FOR FABRICATION



## 9K - 14K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
291	RICH YELLOW	9K-14K	REVERSE HEAT-TREATABLE FOR FABRICATION & MACHINING
800	REDDISH YELLOW	9K-14K	EXCELLENT, USER-FRIENDLY SHEET, WIRE & STAMPING
805	GREENISH YELLOW	9K-14K	COLOR MATCH TO #278 & #VHF-10
820	STANDARD YELLOW	9K-14K	LOW SILVER, LIGHT WEIGHT, EXCELLENT ROLLING, WIRE & STAMPING
823	MEDIUM YELLOW	9K-14K	EXCELLENT, USER-FRIENDLY FOR SHEET, WIRE & STAMPING
824	RICH YELLOW	9K-14K	COLOR MATCH TO UA1, GOOD FOR CHAIN & TUBING
826	LIGHT YELLOW	9K-14K	USER-FRIENDLY FOR SHEET, WIRE & TUBE MAKING
837	LIGHT GREENISH YELLOW	9K-14K	LOW SILVER, EXCELLENT FOR CHAIN MANUFACTURING
850	STANDARD YELLOW	9K-14K	SOFT, USER-FRIENDLY SHEET MAKING ALLOY
855	BRIGHT YELLOW	9K-14K	LOW PRICE POINT FOR LIGHT WEIGHT JEWELRY

### NOTES:

## 18K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
291	RICH YELLOW	18K	REVERSE HEAT-TREATABLE FOR FABRICATION & MACHINING
315*	BRIGHT YELLOW	18K	ALL-PURPOSE FOR WIRE, SHEET & TUBE MAKING, HEAT TREATABLE, EUROPEAN 3N COLOR
716*	ITALIAN YELLOW	18K	ALL-PURPOSE FOR CASTING & FABRICATION
725*	RICH YELLOW	18K	EXCELLENT FOR SHEET, WIRE & TUBE MAKING
740*	STANDARD YELLOW	18K	SOFT FABRICATION
765*	GREENISH YELLOW	18K	EUROPEAN 2N COLOR
795	DARK YELLOW	18K	EXCELLENT, USER-FRIENDLY, SHEET, WIRE & TUBE MAKING

## 18K - 22K Yellow Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
376	BRIGHT YELLOW	19K-22K	GRAIN REFINED, HARD, HIGH SURFACE LUSTER
377	REDDISH YELLOW	22K	HARD, HIGH SURFACE LUSTER, RECOMMENDED FOR BANGLES
381	REDDISH YELLOW	18K-22K	UA1 VERSION FOR HIGHER KARAT APPLICATION
384*	DARK YELLOW	20K-22K	ALL-PURPOSE, LOW SILVER, VERY HARD, HIGH FLUIDITY
385*	DARK YELLOW	20K-22K	LOW SILVER, HIGH TENSILE STRENGTH FOR CHAINS
392*	FINE GOLD	18K-22K	HIGH REUSABILITY, TARNISH RESISTANCE
394*	DARK YELLOW	18K-22K	VERY POPULAR FOR HIGH KARAT JEWELRY PRODUCTION
821*	STANDARD YELLOW	19K-22K	GRAIN REFINED, HARD, HIGH SURFACE LUSTER

## 9K - 18K Pink Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
515	LIGHT PINK	18K	SILVER BASED, HIGH FLUIDITY & EXCELLENT WORKABILITY
543*	DARK PINK	9K-18K	LOW SILVER, HIGH FLUIDITY
548*	PINK	9K-18K	LOW SILVER, VERY USER-FRIENDLY, ENAMELING, ALL-PURPOSE
550*	DARK PINK	9K-18K	EXCELLENT WORKABILITY, HIGH TENSILE STRENGTH

## 9K - 18K Nickel/Nickel - Silver Based White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
860	ULTRA WHITE	14K-18K	LOW NICKEL, HIGH TENSILE STRENGTH
862*	ULTRA WHITE	10K-18K	LOW NICKEL, EXCELLENT WORKABILITY
866	MEDIUM WHITE	9K-18K	SOFT MACHINING FOR CHAIN, TUBE, WIRE & SHEET MANUFACTURING
869	MEDIUM WHITE	9K-18K	SOFT, USER-FRIENDLY
870	MEDIUM WHITE	9K-18K	MEDIUM HARD WIRE & SHEET MAKING ALLOY
875	MEDIUM WHITE	9K-18K	SOFT, USER-FRIENDLY SHEET & WIRE MAKING ALLOY
880	PREMIUM WHITE	18K	SOFT FABRICATION
974*	ULTRA WHITE	9K-18K	LOW SILVER, EXCELLENT WORKABILITY
983*	ULTRA WHITE	18K	SILVER BASED, SOFT, USER-FRIENDLY
RM60*	SUPER WHITE	18K-19K	HIGH NICKEL, ALL- PURPOSE, EXCELLENT WHITENESS



**\*ALL-PURPOSE ALLOY  
FOR CASTING &  
FABRICATION  
APPLICATIONS**

*Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.*

# MASTER ALLOYS FOR FABRICATION



## 9K - 10K Nickel & Palladium "Free" White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
ROM2*	MEDIUM WHITE	9K-10K	USER-FRIENDLY, SUITABLE FOR EAR POSTS

## 9K - 18K Palladium White Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
PD 5*	SILVERY WHITE	9K-14K	ALL-PURPOSE, LOW PD. CONTENT, SOFT ALLOY
PD 12	VANILLA WHITE	14K-18K	HIGH SILVER, MODERATE PD, GOOD SURFACE LUSTER, PT INVESTMENT RECOMMENDED
PD 16*	SUPER WHITE	18K	EXCELLENT FABRICATION, HIGH TENSILE STRENGTH
PD 20*	VANILLA WHITE	14K-18K	USER-FRIENDLY, SOFT & EASY WORKABILITY

## Computerized Numerical Cutting (CNC)

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
291	RICH YELLOW	9K-14K	REVERSE HEAT-TREATABLE FOR FABRICATION & MACHINING
320	STANDARD YELLOW	9K-14K	YELLOW HARD-SPRING FOR SPECIFIC MACHINING PURPOSES
315*	BRIGHT YELLOW	18K	WORKS WELL FOR CASTING & FABRICATION
823	BRIGHT YELLOW	19K-22K	USER-FRIENDLY FOR SHEET, WIRE & STAMPING
824	RICH YELLOW	9K-14K	COLOR MATCH TO UA1, GOOD FOR CHAIN MAKING
862	ULTRA WHITE	10K-18K	LOW NICKEL, EXCELLENT FABRICATION
866	MEDIUM WHITE	9K-18K	SOFT FOR CHAIN, TUBE, WIRE & SHEET MANUFACTURING
S 57 NA	ULTRA WHITE	0.925	TARNISH RESISTANCE, TUBE, WIRE & MACHINING FOR STERLING SILVER

## .925 Sterling Silver Alloy for Sterling Silver

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
S 57 NA*	ULTRA WHITE	0.925	PATENTED DE-OX, FIRE-SCALE & TARNISH RESISTANCE, IMPROVED HARDNESS
S 72*	BRILLIANT WHITE	0.925	HIGH PERFORMANCE, HIGH REUSABILITY
S 86*	ULTRA WHITE	0.925	DE-OX, HIGH TARNISH RESISTANCE, HIGH FLUIDITY
S 88*	WHITE	0.925	DE-OX, HIGH TARNISH RESISTANCE, HIGH FLUIDITY
S 92 NA*	BRILLIANT WHITE	0.925	HIGH PERFORMANCE SURFACE & LUSTER
S 95*	WHITE	0.925	SPRING-HARD, TARNISH RESISTANCE
S 97 NA*	SUPER WHITE	0.925	DE-OX, HIGH TARNISH RESISTANCE & FLUIDITY
S D*	STANDARD SILVER	0.925	PATENTED DE-OX, SOFT WHITE, TARNISH RESISTANCE, GOOD FOR ROLLING

## Brass & Bronze

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
335*	REDDISH YELLOW	BRASS	HARD DE-OX BRASS FOR SAMPLE LINES, MODEL MAKING
340*	STANDARD YELLOW	BRASS	HARD DE-OX BRASS FOR SAMPLE LINES, MODEL MAKING
341*	RICH YELLOW	BRONZE	HARD DE-OX BRONZE FOR SAMPLE LINES, MODEL MAKING
342*	STANDARD YELLOW	BRONZE	HARD DE-OX BRONZE FOR SAMPLE LINES, MODEL MAKING
373*	WHITE	BRONZE	HARD DE-OX BRONZE FOR SAMPLE LINES, MODEL MAKING
650*	STANDARD YELLOW	BRASS	HARD DE-OX BRASS FOR SAMPLE LINES, MODEL MAKING

## 10K - 18K Green Gold

CODE	COLOR	RECOM. KT	SPECIAL COMMENTS
570*	GREEN	10K-18K	ENAMELING, EXCELLENT WORKABILITY
575*	GREEN	10K-18K	ALL-PURPOSE, ENAMELING & FABRICATION
ROM2*	GREEN	18K	ALL-PURPOSE, ENAMELING & FABRICATION

### NOTES:

SCAN TO  
VIEW  
FABRICATION  
MASTER  
ALLOYS



**\*ALL-PURPOSE ALLOY  
FOR CASTING &  
FABRICATION  
APPLICATIONS**

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numerous factors. We  
recommend consulting with our  
dedicated technical team to  
discuss specific circumstances.*



# READY-TO-USE GRAIN



## De-Oxidized Karat Gold Grain

READY-TO-USE BEAD/SHOT FORM

CODE	APPLICATION	COLOR
10KYCG-230	CASTING	STANDARD YELLOW
10KYCG-285	CASTING	RICH REDDISH YELLOW
10KWCG-930	CASTING	ULTRA WHITE
10KWCG-982	CASTING	ULTRA WHITE
14KYCG-UA-1	CASTING	RICH REDDISH YELLOW
14KYCG-UA-3	CASTING	LIGHT GREENISH YELLOW
14KYCG-200	CASTING	BRIGHT YELLOW
14KYCG-220	CASTING	STANDARD YELLOW
14KYCG-230	CASTING	STANDARD YELLOW
14KWCG-860	FABRICATION	ULTRA WHITE
14KWCG-915	CASTING	PREMIUM WHITE
14KWCG-925	CASTING	MEDIUM WHITE
14KWCG-982	CASTING	ULTRA WHITE
14KWCG-PD-1	CASTING	WHITE
14KWCG-900	CASTING	PREMIUM WHITE
14KWCG-907	CASTING	PREMIUM WHITE

CODE	APPLICATION	COLOR
14KWCG-930	CASTING	ULTRA WHITE
14KPCG-540	ALL-PURPOSE	PREMIUM PINK
14KCG-570	ALL-PURPOSE	GREEN
18KYCG-720	CASTING	RICH YELLOW
18KYCG-760	CASTING	GREEN YELLOW
18KYCG-780	CASTING	LIGHT GREENISH YELLOW
18KWCG-900	CASTING	MEDIUM WHITE
18KWCG-930	CASTING	MEDIUM WHITE
18KWCG-983	ALL PURPOSE	SOFT WHITE
18KWCG-987	CASTING	MEDIUM WHITE
18KWCG-915	CASTING	ULTRA WHITE
18KWCG-T 7	CASTING	ULTRA WHITE
18KWCG-RM1	CASTING	PREMIUM WHITE
18KWCG-PD-2	CASTING	VANILLA WHITE
18KWCG-PD-11	CASTING	PREMIUM WHITE
18KPCG-544	CASTING	PINK

## NOTES:

## .925 Sterling Silver Grain Heat Treatable, De-Oxidized

READY-TO-USE BEAD/SHOT FORM

CODE	COLOR	APPLICATION	SPECIAL COMMENTS
STERLIUM™	DAZZLING WHITE	ALL-PURPOSE	HIGH PERFORMANCE FOR ENCLOSED CASTING
STERLIUM PLUS	ULTRA WHITE	ALL-PURPOSE	GERMANIUM BASED, UPMR PATENTED
STAGCG	SILVERY WHITE	ALL-PURPOSE	PHOS DE-OX, TRADITIONAL SILVER-COPPER
STAGCG-Z	SILVERY WHITE	ALL-PURPOSE	TRADITIONAL SILVER-COPPER, NON TARNISH RESISTANCE
STAGCG-22	SILVERY WHITE	CASTING	SOFT, TARNISH RESISTANCE
STAGCG-57	ULTRA WHITE	CASTING	GERMANIUM BASED, PATENTED DE-OX, FIRE-SCALE & TARNISH RESISTANCE, IMPROVED HARDNESS
STAGCG-57NA	ULTRA WHITE	ALL-PURPOSE	GERMANIUM BASED, PATENTED DE-OX, FIRE-SCALE & TARNISH RESISTANCE, IMPROVED HARDNESS
STAGCG-59	SUPER WHITE	CASTING	HARD, PATENTED DE-OX, TARNISH RESISTANCE
STAGCG-86	ULTRA WHITE	ALL-PURPOSE	DE-OX, HIGH TARNISH RESISTANCE, HIGH FLUIDITY
STAGCG-88	WHITE	ALL-PURPOSE	DE-OX, HIGH TARNISH RESISTANCE, HIGH FLUIDITY
STAGCG-97	ULTRA WHITE	ALL-PURPOSE	DE-OX, HIGH TARNISH RESISTANCE
STAGCG-97NA	SUPER WHITE	ALL-PURPOSE	DE-OX, HIGH TARNISH RESISTANCE
STAGCG-D	STANDARD SILVER	ALL-PURPOSE	PATENTED DE-OX, SOFT, TARNISH RESISTANCE

## .925 Sterling Silver Grain with Precious Metals

READY-TO-USE BEAD/SHOT FORM

CODE	COLOR	APPLICATION	SPECIAL COMMENTS
SILVADIUM™ 1	PREMIUM METALLIC WHITE	ALL-PURPOSE	PALLADIUM BASED, HIGH TARNISH RESISTANCE & HARDNESS
STAGCG-MAG	NICKEL WHITE	CASTING	PLATINUM BASED, VERY HARD, LOW TARNISH RESISTANCE
STAGCG-SU	METALLIC WHITE	ALL-PURPOSE	PALLADIUM BASED, HIGH TARNISH RESISTANCE
KARAT STERLING	VANILLA WHITE	ALL-PURPOSE	GOLD BASED, HIGH TARNISH RESISTANCE
PLATILITE	BRILLIANT BRIGHT WHITE	ALL-PURPOSE	PLATINUM BASED, USER FRIENDLY
PLATINET™	BRILLIANT BRIGHT WHITE	ALL-PURPOSE	PLATINUM BASED, SUPERIOR HARDNESS

## Platinum Grain

READY-TO-USE BEAD/SHOT FORM

CODE	COMPOSITION	APPLICATION	SPECIAL COMMENTS
PTGRAIN	PLATINUM 90.0% + IRIIDIUM 10.0%	ALL-PURPOSE	HIGH LUSTER, SPRING-HARD
PT95.2IRID	PLATINUM 95.2% + IRIIDIUM 4.8%	ALL-PURPOSE	HIGH LUSTER
PT95CO	PLATINUM 95.0% + COBALT 5.0%	CASTING	HIGH FLUIDITY, HIGH HARDNESS
PT95RUTH	PLATINUM 95.0% + RUTHENIUM 5.0%	ALL-PURPOSE	EXCELLENT FABRICATION PROPERTIES, HARD
PT90PD	PLATINUM 90.0% + PALLADIUM 10.0%	ALL-PURPOSE	EXCELLENT FABRICATION PROPERTIES, SOFT
PT95.2PD	PLATINUM 95.2% + PALLADIUM 4.8%	ALL-PURPOSE	DELICATE DESIGNS & SETTINGS

## Palladium 950 Grain

READY-TO-USE BEAD/SHOT FORM

CODE	APPLICATION	SPECIAL COMMENTS
PD950GR7	ALL-PURPOSE	HARD, HIGH REUSABILITY & WEARABILITY, REQUIRES PT. INVESTMENT & CASTING MACHINE

Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.

SCAN TO  
VIEW  
READY-TO-USE  
GRAIN

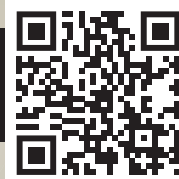


**\*ALL-PURPOSE ALLOY  
FOR CASTING &  
FABRICATION  
APPLICATIONS**



# BULLION - GOLD & SILVER

SCAN TO VIEW  
GOLD & SILVER  
BULLION



UPMR offers an assortment of bullion Gold & Silver products. Our Fine Gold and Fine Silver bars are certified and stamped with a guaranteed purity of 999.9 and are available in an assortment of sizes to meet the budget and the requirements of a wide array of consumers. Other products are also available including monetary bullion in the form of minted coins.



**FINE 1 TROY OZ. GOLD BARS**



**GOLD & SILVER COINS**



**INVESTMENT GOLD  
& SILVER BARS**



## STAY CONNECTED!

### CUSTOMER ACCOUNT PORTAL (CAP)

We make it easy to have the information you require at your fingertips. Simply log on to our secure web-based Customer Account Portal (CAP) by visiting [www.UnitedPMR.com](http://www.UnitedPMR.com).

The CAP can be accessed using a desktop, laptop computer or your mobile device through our website:

[www.UnitedPMR.com](http://www.UnitedPMR.com)

**PRODUCT ORDERS  
PRODUCT HISTORY  
REFINING LOTS  
REFINING HISTORY  
LOT LOCK-INS & MORE!**



### CUSTOMER APP FOR iOS & ANDROID

We have published an app that all types of customers find useful. Whether you want to check on live precious metal prices, calculate the value of your scrap gold, or find the right product for your casting, fabrication, or soldering requirements, you will love having this app just a click away.

Our app is currently available for FREE (and without ads) for the iPhone, iPad, and Android devices.

#### Main Features

- Check current precious metal spot prices
- Browse UPMR's catalog
- Estimate the value of scrap gold based on current market price, karated amount & average assay percentages



### SOCIAL MEDIA

UnitedPMR



# CADMIUM-FREE SOLDERS



## PLUMB GOLD

### Low Karat Solders

TYPE	FLOW °F	TEMP. °C
2.6K Y EASY P	1252°	678°
6K Y EASY P	1308°	709°
8K Y X-EASY P	1258°	681°
8K Y EASY P	1330°	721°
8K W EASY P	1308°	709°
8K Y HARD P	1522°	828°
9K Y EASY P	1315°	713°
9K W EASY P	1330°	721°

### 10K Solders

TYPE	FLOW °F	TEMP. °C
10K Y X-EASY P	1297°	703°
10K Y EASY P	1332°	722°
10K Y MED P	1407°	764°
10K Y HARD P	1512°	822°
10K W EASY P	1368°	742°
10K W MED P	1375°	746°
10K W HARD P	1393°	756°
10K PINK P	1636°	891°

### 12K Solders

TYPE	FLOW °F	TEMP. °C
12K Y EASY P	1366°	741°
12K Y MED P	1416°	769°
12K Y HARD P	1512°	822°
12K W MED P	1407°	764°
12K P MED P	1665°	907°

### 14K Solders

TYPE	FLOW °F	TEMP. °C
14K Y X-EASY P	1384°	751°
14K Y EASY P	1404°	762°
14K Y MED P	1445°	785°
14K Y HARD P	1510°	821°
14K Y X-HARD P	1524°	829°
14K W X-EASY P	1224°	662°
14K W EASY P	1364°	740°
14K W MED P	1436°	780°
14K W HARD P	1474°	801°
14K W X-HARD P	1481°	805°
14K GREEN P	1351°	733°
14K PINK EASY P	1558°	848°
14K PINK MED P	1634°	890°
14K PINK HARD P	1652°	900°

### 18K - 22K Solders

TYPE	FLOW °F	TEMP. °C
18K Y X-EASY P	1378°	748°
18K Y EASY P	1470°	799°
18K Y MED P	1571°	855°
18K Y HARD P	1593°	867°
18K W X-EASY P	1432°	778°
18K W EASY P	1539°	837°
18K W MED P	1557°	847°
18K W HARD P	1607°	875°
18K GREEN P	1479°	804°
18K PINK X-EASY P	1467°	797°
18K PINK EASY P	1580°	860°
18K PINK MED P	1598°	870°
18K PINK HARD P	1607°	875°
19K W WELD P	1639°	893°
20K W WELD P	1587°	864°
22K Y EASY P	1702°	928°

Solder is available in a variety of sizes, including 1 DWT & 5 DWT pieces, as well as specialized clipped solder by request.

## REPAIR GOLD

### Costume & Low Karat Solders

TYPE	FLOW °F	TEMP. °C
6Y X-EASY	1238°	670°
6Y EASY	1337°	725°
6W EASY	1407°	764°
8Y EASY	1335°	724°

### 10 Repair Solders

TYPE	FLOW °F	TEMP. °C
10Y EASY	1222°	661°
10Y MED	1272°	689°
10Y HARD	1348°	731°
10W EASY	1454°	790°
10W MED	1353°	734°
10W HARD	1377°	747°
12Y EASY	1333°	723°

### 14 Repair Solders

TYPE	FLOW °F	TEMP. °C
14Y X-EASY	1292°	700°
14Y EASY	1337°	725°
14Y MED	1409°	765°
14Y HARD	1503°	817°
14W X-EASY	1357°	736°
14W EASY	1395°	757°
14W MED	1382°	750°
14W HARD	1398°	759°

### 18 - 22 Repair Solders

TYPE	FLOW °F	TEMP. °C
18Y EASY	1425°	764°
18Y MED	1495°	814°
18Y HARD	1535°	833°
18W EASY	1465°	796°
18W MED	1495°	827°
18W HARD	1590°	900°
20W WELD	1610°	895°

### Repair Platinum Solders

TYPE	FLOW °F	TEMP. °C
PS 900	1836°	1002°
PS 1000	1886°	1030°
PS 1100	2064°	1129°
PS 1200	2226°	1219°
PS 1300	2426°	1330°
PS 1400	2597°	1425°
PS 1500	2732°	1500°
PS 1600	2912°	1600°
PS 1700	3092°	1700°

### Plumb Platinum Solders

TYPE	FLOW	FLOW °F	TEMP. °C
PSP1300XE	X EASY	2372°	1300°
PSP1300E	EASY	2372°	1300°
PSP1400M	MEDIUM	2552°	1400°
PSP1500H	HARD	2732°	1500°

**Extra Easy:** Great for delicate re-tipping of prongs, jump rings, earring post, fixing links, semi hollow and hallow items, designs with hard-to-reach areas

**Easy:** Great for soldering earring post, fine and delicate areas, jump rings, clasps, designs with hard-to-reach areas

**Medium:** General repair, may include stones that can't take heat transfer from metal

**Hard:** Best for sizing ring, adding full new prongs, filing in hole in item, ideal color match

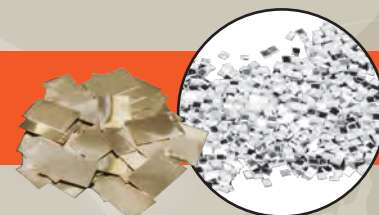
**Extra Hard:** Best for sizing ring, adding full new prongs, ideal color match

## NOTES:

Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.

Repair solders contain lower gold content than Plumb solders (jeweler's discretion on application)

# CADMIUM-FREE SOLDERS



## Silver Solders

TYPE	FLOW °F	TEMP. °C
S X-SOFT	1247°	675°
S SOFT	1278°	692°
S MEDIUM	1341°	727°
S HARD	1396°	758°
S X-HARD	1434°	779°

## 14K - 18K Palladium White Gold Solders

CODE	COLOR	RECOM. KARAT	FLOW	SPECIAL COMMENTS
14KWHPD	GOOD WHITE	14K	ALL-PURPOSE	SOLDER FLOW TEMP.: 1443°F (784°C)
18KWEPD	WHITE	18K	ALL-PURPOSE	SOLDER FLOW TEMP.: 1364°F (740°C)
18KWHPD	MEDIUM WHITE	18K	ALL-PURPOSE	SOLDER FLOW TEMP.: 1472°F (800°C)

## Palladium 950 Solders

CODE	COLOR	RECOM. KARAT	FLOW	SPECIAL COMMENTS
PD950E	WHITE	PD-950	EASY	SOLDER FLOW TEMP.: 2125°F (1163°C)
PD950M	WHITE	PD-950	MEDIUM	SOLDER FLOW TEMP.: 2214°F (1212°C)
PD950H	WHITE	PD-950	HARD	SOLDER FLOW TEMP.: 2365°F (1296°C)

## Laser Wire for Soldering

GOLD / PLATINUM 1 DWT MIN. - SILVER 1 T/OZ. MIN.  
APPROXIMATE WEIGHT PER FOOT IN DWT

GA	MM	INCH	10K	14K	18K	PLATINUM	STERLING
32	0.20	0.008	-	0.082	0.096	0.136	0.07
34	0.15	0.006	-	0.046	0.054	0.075	0.05



## Master Alloys for Making Gold & Silver Solder

CODE	COLOR	RECOM. KARAT	FLOW	SPECIAL COMMENTS
1SA	YELLOW	8K - 14K	EXTRA EASY	FOR MINOR REPAIR
2SA	YELLOW	8K - 14K	EASY	FOR SOLDERING FINDINGS & REPAIR
3SA	YELLOW	8K - 14K	MEDIUM	FOR SOLDERING FINDINGS & REPAIR
4SA	YELLOW	8K - 14K	HARD	HARD, YELLOW FOR SIZING OF JEWELRY
5SA	WHITE	8K - 14K	ALL-PURPOSE	NICKEL & PALLADIUM FREE WHITE
6SA	WHITE	8K - 14K	EASY	FOR MINOR REPAIR
7SA	WHITE	8K - 14K	MEDIUM	FOR SOLDERING FINDINGS & REPAIR
8SA	WHITE	8K - 14K	HARD	FOR SOLDERING FINDINGS & REPAIR
9SA	WHITE	8K - 14K	EASY	NICKEL & PALLADIUM FREE FOR MINOR REPAIRS
11SA	PINK	14K - 18K	ALL-PURPOSE	LIGHT PINK OR DARK YELLOW SOLDER
12SA	DARK PINK	14K - 18K	ALL-PURPOSE	FOR MINOR & MAJOR REPAIRS
13SA	DARK PINK	18K	HARD	FOR MAJOR REPAIRS
14SA	PINK	18K	MEDIUM	FOR MINOR & MAJOR REPAIRS
15SA	PINK	18K	EASY	FOR MINOR & MAJOR REPAIRS
22SA	YELLOW	22K	EASY	FOR MINOR & MAJOR REPAIRS
30SA	YELLOW	19K - 22K	ALL-PURPOSE	FOR MINOR & MAJOR REPAIRS
18KYSAE	YELLOW	18K	ALL-PURPOSE	FOR MINOR & MAJOR REPAIRS
18KWSAE	WHITE	18K	ALL-PURPOSE	FOR MINOR & MAJOR REPAIRS
SSA	STERLING SILVER	0.925	ALL-PURPOSE	FOR MINOR & MAJOR REPAIRS & FOR LASER WIRE

## NOTES:

SCAN TO  
VIEW  
CADMIUM  
FREE  
SOLDERS



**ALWAYS IN STOCK  
& READY TO SHIP!**

Solder is available in a variety of sizes, including 1 DWT & 5 DWT pieces, as well as specialized clipped solder by request.

*Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.*



# SIZING STOCK, WIRE, SHEET & TUBING



## Small Diameter Wire

GOLD / PLATINUM 36" MIN. - SILVER 1 T/OZ. MIN.  
APPROXIMATE WEIGHT PER FOOT IN DWT

GA	MM	INCH	10K	14K	18K	PLATINUM	STERLING
25	0.46	0.018	0.36	0.42	0.50	0.66	-
26	0.40	0.016	0.29	0.33	0.39	0.52	0.23
27	0.36	0.014	0.23	0.26	0.31	0.42	-
28	0.32	0.013	0.18	0.21	0.25	0.33	0.15
29	0.29	0.011	0.15	0.16	0.20	0.27	-
30	0.25	0.010	0.11	0.13	0.16	0.21	0.10

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, Sterling Plus, fine silver, palladium & platinum, 14K & 18K white gold with palladium.

## Round Wire

APPROXIMATE WEIGHT PER FOOT IN DWT

GA	MM	INCH	10K	14K	18K
2	6.54	0.26	75.25	85.10	102.25
3	5.83	0.23	59.95	67.50	81.25
4	5.19	0.20	47.25	53.75	64.75
6	4.12	0.16	29.95	33.75	42.15
7	3.67	0.14	24.25	28.15	32.07
8	3.26	0.13	19.75	21.15	25.65
9	2.91	0.11	16.25	18.45	20.95
10	2.59	0.10	11.95	13.50	16.05
11	2.31	0.09	9.45	11.15	12.70
12	2.05	0.08	7.40	8.90	10.25
13	1.83	0.07	6.45	6.70	8.15
14	1.63	0.06	4.64	5.35	6.45
	1.50	0.06	4.17	4.72	5.63
15	1.45	0.06	3.90	4.30	5.02
16	1.29	0.05	3.35	3.40	4.00
17	1.15	0.05	2.60	2.85	3.20
18	1.02	0.04	1.95	2.05	3.25
19	0.91	0.04	1.65	1.70	2.05
20	0.81	0.03	1.25	1.35	1.60
	0.75	0.03	1.02	1.15	1.38
21	0.72	0.03	0.85	0.98	1.25
22	0.64	0.03	0.75	0.84	1.00
23	0.57	0.02	0.60	0.65	0.85
24	0.51	0.02	0.50	0.55	0.60
25	0.46	0.02	0.36	0.40	0.48
26	0.41	0.02	0.35	0.38	0.40
27	0.36	0.01	0.24	0.30	0.36
28	0.32	0.01	0.23	0.26	0.28
29	0.29	0.01	0.15	0.18	0.24
30	0.26	0.01	0.12	0.14	0.16

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, Sterling Plus, fine silver, palladium & platinum, 14K & 18K white gold with Palladium.

## Half Round Wire

APPROXIMATE WEIGHT PER FOOT IN DWT

MM	10K	14K	18K
8 x 2	27.50	34.00	38.50
8 x 1.5	20.50	24.50	29.50
7 x 2	24.75	29.10	34.75
7 x 1.5	17.10	23.16	25.10
6 x 2	22.15	25.17	30.25
6 x 1.5	15.75	18.25	21.75
5 x 2	18.75	21.80	25.90
5 x 1.5	14.00	15.75	18.90
4 x 2	14.75	17.50	20.35
4 x 1.5	11.59	13.26	15.76
3 x 2	12.20	13.75	16.25
3 x 1.5	9.15	10.27	12.80
2 x 1.5	6.25	7.95	8.75
2 x 1	4.10	4.95	6.55
1.5 x 1	3.11	3.39	5.25

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, sterling silver, fine silver, palladium & platinum, 14K & 18K white gold with palladium.

## Flat Wire

APPROXIMATE WEIGHT PER FOOT IN DWT

MM	10K	14K	18K
10 x 1.5	33.51	37.95	45.65
10 x 1	22.36	25.31	30.45
8 x 2.5	44.65	50.57	60.84
8 x 2	35.74	40.47	48.75
8 x 1.5	26.81	30.36	36.53
8 x 1	17.89	20.26	24.37
7 x 2.5	39.09	44.26	53.25
7 x 2	31.27	35.41	42.60
7 x 1.5	23.47	26.57	31.97
7 x 1	15.66	17.74	21.33
6 x 2.5	33.51	37.95	45.65
6 x 2	26.81	30.36	36.53
6 x 1.5	20.13	22.79	27.41
6 x 1	13.43	15.21	18.29
5 x 2.5	27.93	31.63	38.04
5 x 2	22.36	25.31	30.45
5 x 1.5	16.78	19.00	22.85
5 x 1.25	14.00	15.84	19.05
5 x 1	11.20	12.69	15.25
5 x .75	8.41	9.52	11.45
4.5 x 2	20.13	22.79	27.41
4.5 x 1.5	15.11	17.10	20.57
4.5 x 1	10.08	11.41	13.73
4 x 3	26.81	30.36	36.53
4 x 2.25	20.13	22.79	27.41
4 x 2	17.89	20.26	24.37
4 x 1.5	13.43	15.21	18.29
4 x 1.25	11.20	12.69	15.25
3.5 x 2.5	19.56	22.15	26.64
3.5 x 2	15.66	17.74	21.33
3.5 x 1.5	11.76	13.31	16.01
3.5 x 1	7.86	8.89	10.69
3 x 2.5	16.78	19.00	22.85
3 x 2	13.43	15.21	18.29
3 x 1.5	10.08	11.41	13.73
3 x 1.25	8.41	9.52	11.45
3 x 1	6.75	7.63	9.17
3 x .75	5.07	5.74	6.89
2.5 x 2	11.20	12.69	15.25
2.5 x 1.5	8.41	9.52	11.45
2.5 x 1.25	7.02	7.95	9.55
2.5 x 1	5.63	6.36	7.65
2.5 x .75	4.23	4.79	5.75
2 x 1.5	6.80	7.63	9.17
2 x 1.25	5.63	6.36	7.65
2 x 1	4.51	5.10	6.13
2 x .75	3.40	3.84	4.61
1.5 x 1	3.40	3.84	4.61
1.5 x .75	2.56	2.89	3.47

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, sterling silver, fine silver, palladium & platinum, 14K & 18K white gold with palladium.

## NOTES:

Individual results may vary due to numerous factors. We recommend consulting with our dedicated technical team to discuss specific circumstances.

## Square Wire

APPROXIMATE WEIGHT PER FOOT IN DWT

MM	10K	14K	18K
6 x 6	83.75	90.96	109.95
5 x 5	58.25	61.25	74.75
4 x 4	36.75	40.44	48.00
3.5 x 3.5	27.95	30.10	35.00
3 x 3	21.10	22.80	27.36
2.5 x 2.5	13.92	15.84	19.75
2.25 x 2.25	10.95	12.84	15.75
2 x 2	9.55	10.08	12.75
1.75 x 1.75	7.10	8.25	9.36
1.5 x 1.5	5.10	5.70	6.84
1.25 x 1.25	3.95	4.25	4.80
1 x 1	2.30	2.55	3.10
.75 x .75	1.40	1.50	1.70

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, sterling silver, fine silver, palladium & platinum, 14K & 18K white gold with palladium.

# SIZING STOCK, WIRE, SHEET & TUBING



## Sheet & Plate - Gold, Silver, Platinum & Palladium

GA	MM	INCH	10K	14K	18K	STERLING
8	3.26	0.128	15.30	17.30	20.70	13.95
9	2.91	0.114	13.80	15.60	18.50	12.48
10	2.59	0.102	12.20	13.80	16.50	11.10
11	2.31	0.091	10.95	12.40	14.50	9.96
12	2.05	0.081	9.70	11.10	12.80	8.92
13	1.83	0.072	8.70	9.83	11.55	7.88
14	1.63	0.064	7.75	8.75	10.30	7.02
-	1.50	0.060	7.26	8.28	9.44	6.39
15	1.45	0.057	6.90	7.80	9.25	6.24
16	1.29	0.051	6.10	6.89	8.10	5.80
17	1.15	0.045	5.45	6.16	7.25	4.92
18	1.02	0.040	4.85	5.49	6.45	4.43
19	0.91	0.036	4.35	4.90	5.80	3.94
20	0.81	0.032	3.85	4.37	5.15	3.53
21	0.72	0.028	3.41	3.86	4.53	3.06
22	0.64	0.025	3.04	3.44	4.08	2.74
23	0.57	0.023	2.68	3.03	3.55	2.40
24	0.50	0.020	2.42	2.74	3.21	2.20
25	0.46	0.018	2.16	2.45	2.88	2.00
26	0.40	0.016	1.94	2.17	2.55	1.77
27	0.36	0.014	1.71	1.93	2.26	1.53
28	0.32	0.013	1.50	1.68	1.98	1.30
29	0.29	0.011	1.34	1.52	1.79	1.20
30	0.26	0.010	1.22	1.38	1.60	1.12

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, Sterium Plus, fine silver, palladium & platinum, 14K & 18K white gold with palladium.

## Laser Wire for Soldering

GOLD / PLATINUM 1 DWT MIN. - SILVER 1 T/OZ. MIN.  
APPROXIMATE WEIGHT PER FOOT IN DWT

GA	MM	INCH	10K	14K	18K	PLATINUM	STERLING
32	0.20	0.008	-	0.082	0.096	0.136	0.07
34	0.15	0.006	-	0.046	0.054	0.075	0.05

\*\*Available in many other sizes. Most products are available in 10K, 14K, & 18K yellow, white, red, and green gold, Sterium Plus, fine silver, palladium & platinum, 14K & 18K white gold with palladium. 10K is not available in pink or green.

## Round Tubing

MIN. 3" / MAX. 24"  
APPROXIMATE WEIGHT PER FOOT IN DWT

### Light .010" - 30 GA

NO PINK OR GREEN GOLD TUBING.

WALL THICKNESS ORDER NUMBER	O.D. MM/INCH	I.D. MM/INCH	14K DWT/FT	INSERT WIRE
3.13 L	3.13 / .123"	2.63 / .103"	5.95	10 GA
2.85 L	2.85 / .112"	2.35 / .093"	5.55	12 GA
2.55 L	2.55 / .100"	2.05 / .081"	4.60	13 GA
2.25 L	2.25 / .089"	1.75 / .069"	4.10	14 GA
2.05 L	2.05 / .081"	1.55 / .061"	3.80	15 GA
1.80 L	1.80 / .071"	1.30 / .051"	3.25	17 GA
1.60 L	1.60 / .063"	1.10 / .043"	2.85	18 GA
1.43 L	1.43 / .056"	.93 / .037"	2.50	20 GA
1.25 L	1.25 / .049"	.75 / .030"	2.10	21 GA
1.13 L	1.13 / .044"	.63 / .025"	1.85	23 GA
1.00 L	1.00 / .039"	.50 / .020"	1.60	25 GA

### Medium .015" - 26 GA

18K WHITE WITH PALLADIUM ONLY. 18K WHITE WITHOUT PALLADIUM NOT AVAILABLE.

WALL THICKNESS ORDER NUMBER	O.D. MM/INCH	I.D. MM/INCH	14K DWT/FT	INSERT WIRE
5.80 M	5.80 / .228"	5.00 / .197"	16.70	5 GA
4.80 M	4.80 / .189"	4.00 / .157"	13.26	7 GA
3.75 M	3.75 / .148"	2.95 / .116"	10.65	9 GA
3.30 M	3.30 / .130"	2.50 / .098"	9.10	11 GA

### Heavy .020" - 24 GA

WALL THICKNESS ORDER NUMBER	O.D. MM/INCH	I.D. MM/INCH	14K DWT/FT	INSERT WIRE
3.13 H	3.13 / .123"	2.13 / .084"	10.47	12 GA
2.85 H	2.85 / .112"	1.85 / .073"	9.26	14 GA
2.50 H	2.50 / .098"	1.50 / .059"	7.90	15 GA
2.25 H	2.25 / .089"	1.25 / .049"	6.88	17 GA
2.00 H	2.00 / .079"	1.00 / .039"	5.93	19 GA

\*\*Available in many other sizes. Most products are available in 14K & 18K yellow, white, red, and green gold, Sterium Plus, 14K white gold with or without Palladium, and 18K white gold with palladium.

## NOTES:

PRODUCT CONVERSION: 18 GA = 1MM = .040 INCHES.  
TO CONVERT (INCH) TO MM DIVIDE BY .04.  
SQUARE TUBING, STEP BEZEL & BEZEL STRIP ARE ALSO AVAILABLE.

SCAN TO  
VIEW  
SIZING  
STOCK,  
WIRE,  
SHEET &  
TUBING



# PRECIOUS METAL REFINING

UPMR is the largest US-owned full service primary refiner for **GOLD, SILVER, PLATINUM, and PALLADIUM**. We specialize in refining for the jewelry industry, processing everything from gold scraps to polishing sweeps as well as other jewelry manufacturing byproducts.

From the smallest to the largest karated scrap lot, our advanced technology provides our customers the maximum in returns with the most competitive charges. We offer prompt service and numerous settlement options including check, wire transfer, ACH, fine gold and coins as well as product returns including: casting grains, master alloys, wire, sizing stock, sheet, tube and solder available in gold, silver, platinum and palladium.



## MATERIALS WE PROCESS

Karated Scrap	Polishings
Dental Scrap	Filings & Grindings
Stone Removal	Tools
Bench Sweeps	Carpet
Scrap Silver	Floor Sweeps
Clay Graphite Crucibles	

## PAYMENT OPTIONS

Various payment options are available to our refining customers including: wire transfer, ACH, check or U.S. dollar credit towards product orders. Many jewelry customers exchange refining for products such as solder, sizing stock, casting grain, master alloys as well as fine gold casting grain.

## LOW GRADE MATERIALS

UPMR specializes in refining low grade materials for the jewelry industry. We process and refine jewelry manufacturing byproducts such as:

Polishings	Floor Sweeps
Filings & Grindings	Blower Sweeps
Bench Sweeps	Clay Graphite Crucibles

Sink Trap Material  
Carpeting  
**And More...**

## RECOVERING PRECIOUS METALS

At UPMR, these low grade materials are processed to recover precious metals. Turnaround times vary depending on the material sent in.

Retailers who offer repair services also utilize our low grade refining services.

Moving to a new location? Consider sending in carpet from your workshop for refining. Bench sweeps, blower sweeps from the polishing machines, gloves, floor sweeps, etc. UPMR will provide you a shipping container you can use to send in this material for refining and precious metal recovery.

## STONE REMOVAL

### *Accurate: Weighing Your Lot*

Once your merchandise is received, UPMR takes great care in the accuracy of weighing your lot. Your precious metals and stones are always under the surveillance of video security cameras to observe your material and ensure accurate returns.



### *Safe: Gemstone Separation & Frosting Available*

This non-destructive method of stone removal using a metal dissolution process allows for the safe return of your Diamonds, CZ's, Moissanite and most harder colored stones.



### *Prompt: Cleaning & Inspection*

After the gemstone removal process is complete, your stones are carefully cleaned, inspected, weighed and packaged for shipping.





# FREQUENTLY ASKED QUESTIONS

## What do I need to do if I want to send in scrap to be refined and have never worked with UPMR before?

The first thing you need to do is to provide us with your business information so that we can send you the proper registration forms for compliance review and approval. These forms can be requested by calling us at 1-800-999-3463. We can email or fax you the needed documents to complete and return to us. These forms are required by the government to ensure our practices are in accordance with government requirements. Once we have this documentation we can review them and create an account for you to do business with UPMR upon approval from our compliance department.

## What things are important for your refiner to know?

In order for us to process your material and to offer the best return, we need as much information as you can provide about the material you are sending in. We provide you a packing list on our website or you can call 1-800-999-3463 and we can email or fax you the form. The more information you fill in on this document, the better we can process your material to your specific requirements. Please be sure to clearly print your name, contact information, phone number, and your estimated weights at shipping. We will verify the information in our receiving department when we receive your shipment.

## How long does it take to process my material?

The type of material will determine how long it takes to process. Please refer to the following schedule:  
*(All lead times are approximate)*

- High Grade Gold Scrap – 1-2 business days
- High Grade Silver Scrap – 7-10 business days
- High Grade Platinum / Palladium – 5-7 business days
- Bench Sweeps / Filings – 7-10 business days
- Polishing Sweeps – 15 business days
- Floor/Blower Sweeps – 15 business days

## Is there a minimum amount of material that I need to have before sending in my material for processing?

UPMR does not have a minimum quantity requirement, however there are minimum charges. The basic rule of thumb is that you should, at minimum, accumulate the quantities listed below:

- High Grade Gold Scrap – 1 troy ounce or 20 DWT
- High Grade Silver Scrap – 30 troy ounces
- High Grade Platinum / Palladium – ½ troy ounce
- Polishing / Blower Sweeps – 5 lbs.

## How can I get additional information?

You can call our office at **1-800-999-3463** or **+1-716-683-8334** to speak to one of our representatives who can answer any questions you may have. Our goal is for you to have a great experience, so please contact us if you have any questions.

# ANALYTICAL SERVICES

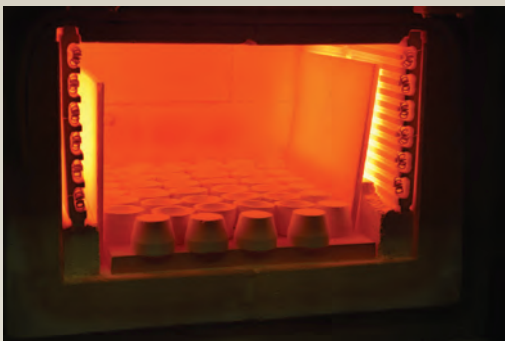
Our refining customers as well as our product customers benefit from UPMR's advanced analytical services laboratory. Fire assay, X-ray analysis and ICP are all used to detect payable metals in a refining lot and as quality control so you know each jewelry manufacturing product you buy from UPMR is pure and free of any dangerous metals like cadmium.

For jewelry manufacturers, UPMR's lab offers services like Plating Thickness Testing, Vickers Hardness Testing and Macbeth Color Measuring. These quality control test measures help manufacturers maintain their standards when it comes to ensuring consistent results.



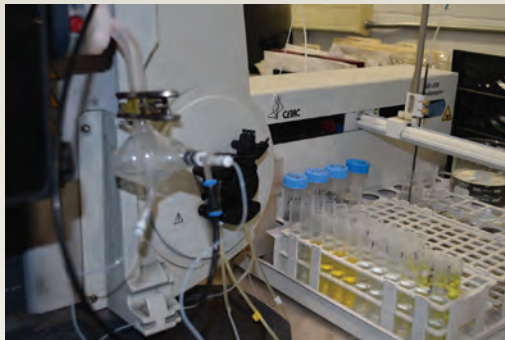
## X-RAY FLUORESCENCE

The X-ray fluorescence is a non-destructive process and hence, it is used for applications where there is a need to maintain the integrity of the sample. All raw materials and products such as alloys, solders, sterling silver, and gold bearing alloys are first tested in X-Ray fluorescence equipment. At UPMR, an analysis using XRF is done using three different kinds of XRF equipment where each instrument specializes in measuring a specific combination of metals.



## FIRE ASSAY

The fire assay procedure is an age-old practice and is most widely accepted as the standard in the jewelry industry when determining the gold and silver content. Making UPMR superior in speed and accuracy is our state-of-the-art analytical department. We perform three separate fire assays with each individual lot. To ensure the maximum returns, we utilize our two-step process of fire assaying and X-ray fluorescence.



## ICP

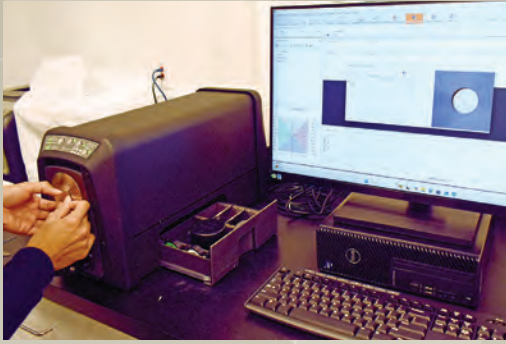
The ICP equipment is a sophisticated high precision instrument used to measure any combination of metals to a parts-per-million levels of accuracy. This equipment is able to detect extremely small traces of metals. At UPMR, we use the ICP equipment to determine all precious metals content in refining lots at parts-per-million levels so our customers can obtain the maximum return on their refining materials. In addition to gold and silver, all platinum group metals and alloys are also analyzed using the ICP equipment.



## PLATING THICKNESS

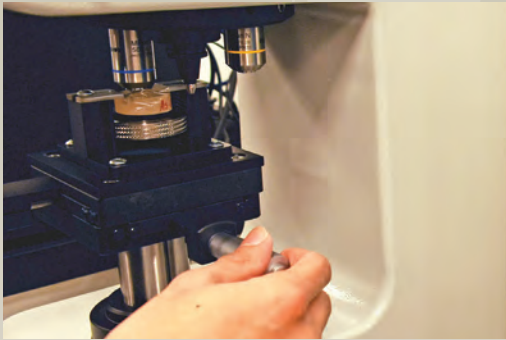
Plating Thickness or Precious Metal Thickness on Gold or Silver jewelry articles can be precisely measured by one of the non-destructive XRF pieces of equipment. In addition, Rhodium plating thickness can be measured with high accuracy using this equipment.

# ANALYTICAL SERVICES



## MACBETH COLOR MEASURING

The Macbeth Color measuring equipment is used to precisely quantify or match the colors of an alloy. Using this equipment, we are able to duplicate a specific color required by our customers or differentiate between different tones of yellow and white colored alloys.



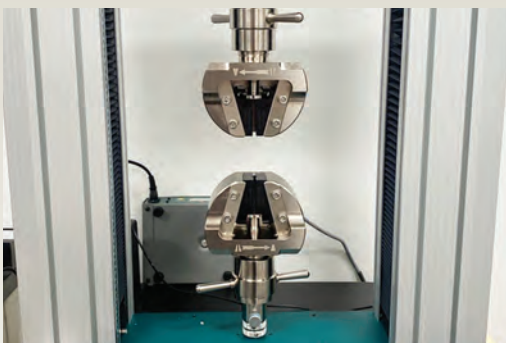
## VICKERS HARDNESS

At UPMR, we strive to provide our customers with products with superior and unique properties. The Vickers Hardness Testing data aids in the development of new alloys and products and the effect of the new alloying elements. All sheet and fabricated products are tested for their hardness to ensure proper quality.



## THERMAL ANALYSIS

UPMR relies on this key machine to precisely measure the melting temperature of all our products. We are committed to providing our customers with comprehensive data to simplify the casting process. This thermal analyzer unit enables us to deliver accurate casting temperatures, helping to prevent common temperature-related defects.



## TENSILE STRENGTH

In a tension test, a material is subjected to gradually increasing uniaxial tensile force to study the material's response to a pulling force. A tensile tester is used for this very purpose. UPMR has acquired state-of-the-art Tensile testing equipment to support customers with more data on our fabrication products. The tester will read out Yield strength, Tensile strength, fracture stress & Elongation of the sample which will enable users to understand how much the metal can be deformed without breaking in operations such as rolling, bending and wire drawing.

# RESEARCH & DEVELOPMENT LAB

Our state-of-the-art research and development lab allows for more in-house development and testing of our jewelry products. Our team of metallurgists, alongside our technical department, are able to take a desired product from concept to casting and finishing – all done in-house to ensure a user-friendly experience for our customers.

In addition to the metallurgists and tech team, UPMR partner with jewelers who are able to test products in our R&D Lab. From casting to soldering and finishing, we can test the metals throughout every step of the process.





# United

PRECIOUS METAL REFINING, INC.

## A GLOBAL SUPPLIER:

UNITED STATES OF AMERICA

AUSTRALIA

CANADA

CARIBBEAN

CHINA

EUROPE

HONG KONG

INDIA

ISRAEL

LATIN AMERICA

MEXICO

SINGAPORE

SOUTH AFRICA

SOUTH KOREA

SRI LANKA

TAIWAN

THAILAND

TURKEY

UAE

VIETNAM

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**Certified as Environmentally  
& Ethically Responsible**

