

A GUIDE TO PLATINUM

2017



Stylish designs secured in a
perfect platinum setting

 STULLER

platinum and your business

Do you include platinum in the metals you offer customers? The simple act of suggesting platinum can create profitable business results. Over the past four years, platinum bridal sales have risen as much as 10% per year. Why? The majority of brides prefer white metal and platinum is naturally white, uniquely strong, pure, and

hypoallergenic. Some reasons jewelers don't recommend platinum result from not knowing enough about it. Like any new skill, learning to work with platinum is a process. But the rewards of mastering it and creating your designs in platinum will reward you as a craftsman and help your business reap the benefits of the more significant sales.

M Y T H

Platinum is hard to work with.

F A C T

Working with platinum is different, not hard.

As with every new product, you'll need to understand platinum's properties, get the right tools, and learn the most effective techniques.

M Y T H

Platinum is too expensive for my customers.

F A C T

Gold prices are higher than platinum, and platinum is 2.7 times more profitable for you.

A major survey revealed that 77% of bridal customers prefer platinum but weren't offered the option. By suggesting platinum and giving information on its benefits, you're providing something customers want.

M Y T H

Platinum is hard to sell.


F A C T

Armed with the knowledge, platinum's outstanding benefits help you sell it.

Customers are impressed to learn that it is the purest precious metal (95% and 90%), naturally white with no need for plating, the most durable precious metal, and holds diamonds and gemstones with the highest level of security.

building a ring *die-struck heads and shanks*

The fact that platinum is the most durable precious metal means it holds diamonds and gemstones with the highest level of security. At Stuller we manufacture platinum settings in three ways:

Die struck  The die-striking process uses an immense amount of pressure to form metal, producing porosity-free shanks and heads with superior tensile strength. The best platinum alloy for die striking is PT950/Ru (ruthenium) due to its tighter, denser grain structure. (See page 12.) Die struck heads are typically simpler designs that are more precisely formed. They contain excellent mechanical properties and surface finishes and extremely low dimensional tolerances.



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401 Round-Shape 4-Prong Tall Heavy Shank Setting, 6.0-6.6mm, Platinum, **\$199**

SH3 Light Pinched Half-Round Shank for 4-Prong Setting, Platinum, **\$625**

140401L Round 4-Prong Light Solitaire Ring Mounting, 6-6.6mm, Platinum, **\$929**



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309 Round-Shape 6-Prong Tall Shank Setting, 6-6.6mm, Platinum, **\$269**

SH2 Light Pinched Shank for 6-Prong Setting, 14K Yellow, **\$209**

140309L Round-Shape 6-Prong Solitaire Ring Mounting, 6-6.6mm, 14K Yellow/Platinum, **\$445**



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21343 Square-Shape 4-Prong TruSeat® Shank Setting, 6mm, Platinum, **\$279**

SH3 Light Pinched Half-Round Shank for 4-Prong Setting, Platinum, **\$625**

150517 Square-Shape 4-Prong Engagement Ring Mounting, 6mm, Platinum **\$1,085**



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508 Oval-Shape 6-Prong Shank Setting, 7.5x5.5mm, Platinum, **\$215**

SH2 Light Pinched Shank for 6-Prong Setting, Platinum, **\$835**





150508 Oval-Shape 6-Prong Engagement Ring Mounting, 7.5x5.5mm, Platinum, **\$1,095**





building a ring *peg heads and shanks*





Metal mold METAL MOLD This manufacturing method also has superior mechanical properties because the metal mold acts as a chill; sections of the mold can be selectively insulated or cooled, which helps control the solidification and improves overall casting properties. Castings are uniform in shape and have excellent surface finishes. Stuller uses Pt950/Co (cobalt) in this method because it suppresses oxygen eliminating metal mold reaction. (See page 12.)





Rubber mold - Style limitations of the die striking and metal mold methods make the versatile efficiency of the classic rubber mold technique the most common. Rubber mold is ideal for complex design elements and accent stone-heavy pieces. While metal mold produces a crisp and precise piece, rubber molds are essential for softer rounded curves, challenging undercut details, halos and shared-prong or pave-style designs.





All of the following pages of peg heads and shanks can work together to create hundreds of ring design options. We're showing you some of our favorite combinations. **NOTE: All the heads are platinum, regardless of the metal of the shank.**





 <small>DIE STRUCK</small> 24061 Oval-Shape 4-Prong Peg Setting, 7x5mm, Platinum, \$155	 SH652 Diamond-Accented Sculptural Shank for Peg Setting, Platinum, \$1,215	 <small>METAL MOLD</small> 29072 Cushion-Shape 4-Prong Peg Setting, 6.5mm, Platinum, \$249	 121969 Diamond-Accented Shank, Platinum, \$1,169
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 <small>DIE STRUCK</small> 29183 Round-Shape 4-Prong Premium Forged Peg Setting, 6.5mm, Platinum, \$379	 SH656 Accented Cathedral Shank Mounting for Peg Setting, Platinum, \$915	 <small>METAL MOLD</small> 29231 Square-Shape Peg Setting, 6mm, Platinum, \$365	 121956 Diamond-Accented Shank for Peg Setting, Platinum, \$2,425
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 <small>METAL MOLD</small> 28686 Round-Shape 4-Prong Light Octet® Peg Setting, 6.5mm, Platinum, \$225	 121967 Diamond-Accented Shank with Sculptural Design, 3/8 CTW, Platinum, \$2,525	 <small>METAL MOLD</small> 29310 Semi-Set Halo-Style Peg Setting, .08 CTW, Platinum, \$509	 SH318 Diamond-Accented Cathedral Shank for Peg Setting, Platinum, \$715
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 <small>METAL MOLD</small> 22033 Square-Shape 4-Prong V-End Peg Setting, 6x6mm, Platinum, \$279	 60084 Diamond-Accented Shank, 1/2 CTW, Platinum, \$3,059	 <small>DIE STRUCK</small> 321 Round-Shape 6-Prong Tall Peg Setting, 6-6.6mm, Platinum, \$239	 SH467 Diamond-Accented Shank for Peg Setting, 1/10 CTW, Platinum, \$1,209
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 <small>METAL MOLD</small> 29314 Oval-Shape Halo-Style Semi-set Peg Setting, 7x5mm, 1/10 CTW, Platinum, \$545	 SH470 Diamond-Accented Shank for Peg Setting, 1/4 CTW, Platinum, \$1,355	 <small>METAL MOLD</small> 29529 Round-Shape 4-Prong Peg Setting with Milgrain, 5mm, Platinum, \$135	 SH475 Shank for Peg Setting, Platinum, \$1,089
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 <small>METAL MOLD</small> 29228 Round-Shape 4-Prong Claw Peg Setting, 6.5mm, Platinum, \$175	 SH473 Diamond-Accented Shank for Peg Setting, 1/4 CTW, Platinum, \$1,365	 <small>DIE STRUCK</small> 29184 Round-Shape Split-Prong Peg Setting, 6.5mm, Platinum, \$209	 SH657 Cathedral Shank for Peg Setting, Platinum, \$859
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 <small>METAL MOLD</small> 29451 Round-Shape Halo-Style Semi-set Peg Setting, 5.8mm, 1/8 CTW, Platinum, \$915	 SH658 Diamond-Accented Cathedral Shank, 1/8 CTW, Platinum, \$1,739	 <small>DIE STRUCK</small> 29227 Round-Shape 6-Prong Coined Peg Setting, 6.5mm, Platinum, \$369	 SH488 Shank for Peg Setting, Platinum, \$1,345
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PLATINUM FACT

As a major manufacturer of Platinum products and jewelry, Stuller uses 100% SCS-certified recycled platinum.

building a ring *peg heads and shanks*

















 <p>311 Round-Shape 4-Prong Low Peg Setting, 6-6.6mm, Platinum, \$165</p>	 <p>SH468 Diamond-Accented Shank for Peg Setting, 1/10 CTW, Platinum, \$1,045</p>	 <p>28975 Round 4-Prong Peg Setting, 6.5mm, Platinum, \$78</p>	 <p>SH476 Decorative Shank for Peg Setting, Platinum, \$1,075</p>
 <p>29625 Round-Shape 4-Prong Decorative Gallery Peg Setting, 6.5mm, Platinum, \$195</p>	 <p>SH639 Floral-Inspired Embossed Shank for Peg Setting, Platinum, \$835</p>	 <p>29735 Round-Shape 6-Prong Milgrain Peg Setting, 6.5mm, Platinum, \$239</p>	 <p>SH667 Milgrain Shank with Sculptural Design for Peg Setting, Platinum, \$985</p>
 <p>29643 Round-Shape 4-Prong Semi-Set Peg Setting, 6.5mm, Platinum, \$515</p>	 <p>SH646 Floral-Inspired Embossed Shank for Peg Setting, Platinum, \$1,039</p>	 <p>337 Marquise-Shape 6-Prong Peg Setting, 7x4mm, Platinum, \$135</p>	 <p>SH663 Diamond-Accented Milgrain Shank for Peg Setting, .06 CTW, Platinum, \$995</p>
 <p>22422 Round-Shape 4-Prong Decorative Peg Setting, 6.5mm, Platinum, \$285</p>	 <p>SH650 Cathedral Shank with Sculptural Design for Peg Setting, Platinum, \$1,139</p>	 <p>2664 Round-Shape 6-Prong Heavyweight Peg Setting, 6-6.6mm, Platinum, \$269</p>	 <p>SH660 Diamond-Accented Cathedral Shank for Peg Setting, Platinum, \$1,109</p>
 <p>28488 Square-Shape Peg Setting, 5mm, Platinum, \$206</p>	 <p>SH479 Shank for Peg Setting, Platinum, \$1,175</p>	 <p>2663 Round-Shape 4-Prong Heavy Peg Setting, 6-6.6mm, Platinum, \$215</p>	 <p>SH662 Milgrain Shank for Peg Setting, Platinum, \$919</p>

 <p>29643 Round-Shape 4-Prong Semi-Set Peg Setting, Platinum, 6.5mm, \$515</p>	 <p>SH552 Diamond-Accented Shank for Peg Setting, 1/2 CTW, 14K White, \$1,695</p>	 <p>28997 Round-Shape Semi-Set 4-Prong Peg Setting, 6.5mm, Platinum, \$245</p>	 <p>SH606 Diamond-Accented Cathedral Shank for Peg Setting, 1/3 CTW, 14K White, \$1,279</p>
 <p>29649 Round-Shape 6-Prong Semi-Set Setting, 6.5mm, Platinum, \$795</p>	 <p>SH553 Diamond-Accented Shank for Peg Setting, 1/2 CTW, 14K White, \$1,029</p>	 <p>24975 Round-Shape Peg Setting with Accent, 6.5mm, Platinum, \$239</p>	 <p>SH550 Diamond-Accented Shank for Peg Setting, .08 CTW, 14K White, \$625</p>
 <p>29636 Round-Shape 4-Prong Semi-Set Peg Setting, 6.5mm, Platinum, \$715</p>	 <p>SH517 Diamond-Accented Shank for Peg Setting, 3/8 CTW, 14K White, \$1,335</p>	 <p>28037 Square-Shape Diamond Semi-set Peg Setting, 5.5x5.5mm, 0.05 CTW, Platinum, \$389</p>	 <p>SH607 Diamond-Accented Milgrain Cathedral Shank for Peg Setting, 1/6 CTW, 14K White, \$729</p>
 <p>29629 Round-Shape 4-Prong Peg Setting, 6.5mm, Platinum, \$279</p>	 <p>SH629 Diamond-Accented Shank for Peg Setting, 1/3 CTW, 14K White, \$279</p>	 <p>2958 Oval-Shape 4-Prong Tulipset® Peg Setting, 7x5mm, Platinum, \$315</p>	 <p>SH554 Diamond-Accented Shank for Peg Setting, 1/6 CTW, 14K White, \$765</p>

HEAD OF SECURITY

If your customer decides against a platinum ring, recommend a platinum head to secure her diamond. Few consumers know of platinum's durability. When you explain that a platinum head more securely protects the diamond, a high percentage will opt for one. They see it as a form of insurance.

building a ring *peg heads and shanks*

 <p>DIE STRUCK</p> <p>346 Oval-Shape 6-Prong Peg Setting, 6.5x4.5mm, Platinum, \$155</p>	<p>+</p>  <p>SH589 Diamond-Accented Shank for Peg Setting, 1/3 CTW, 14K White/Yellow, \$989</p>	 <p>DIE STRUCK</p> <p>311 Round-Shape 4-Prong Low Peg Setting, 6-6.6mm, Platinum, \$165</p>	<p>+</p>  <p>SH593 Diamond-Accented Milgrain Split Shank for Peg Setting, 1/4 CTW, 14K White/Rose, \$935</p>
 <p>DIE STRUCK</p> <p>29227 Round-Shape 6-Prong Coined Peg Setting, 5.2mm, Platinum, \$245</p>	<p>+</p>  <p>SH585 Diamond-Accented Milgrain Split Shank for Peg Setting, 1/3 CTW, 14K White/Yellow, \$1,305</p>	 <p>METAL MOLD</p> <p>29529 Round-Shape 4-Prong Peg Setting with Milgrain, 5mm, Platinum, \$135</p>	<p>+</p>  <p>SH605 Diamond-Accented Milgrain Shank for Peg Setting, 1/4 CTW, 14K White/Rose, \$969</p>
 <p>METAL MOLD</p> <p>24972 Cushion-Shape Split-Prong Peg Setting, 6x6mm, Platinum, \$219</p>	<p>+</p>  <p>SH590 Diamond-Accented Shank for Peg Setting, 3/8 CTW, 14K White/Yellow, \$1,559</p>	 <p>METAL MOLD</p> <p>29228 Round-Shape 4-Prong Claw Peg Setting, 5.2mm, Platinum, \$115</p>	<p>+</p>  <p>SH587 Diamond-Accented Milgrain Split Shank for Peg Setting, 1/3 CTW, 14K White/Rose, \$1,345</p>
 <p>DIE STRUCK</p> <p>321 Round-Shape 6-Prong Tall Peg Setting, 5-5.3mm, Platinum, \$159</p>	<p>+</p>  <p>SH588 Diamond-Accented Shank for Peg Setting, 1/4 CTW, 14K White/Rose, \$1,165</p>	 <p>METAL MOLD</p> <p>28079 Oval-Shape Peg Setting with Round Accent, 7x5mm, Platinum, \$215</p>	<p>+</p>  <p>SH586 Diamond-Accented Milgrain Split Shank for Peg Setting, 1/3 CTW, 14K White/Rose, \$1,015</p>

RARE IN REAL WORLD TERMS

It can be hard to understand what the term rare actually means. Imagine if we melted all the platinum ever mined to date and poured it into an Olympic size pool, it would barely reach your ankles. By comparison, all the gold ever mined would fill three Olympic-size pools to the top.

repair *retipping platinum*

To retip, you can use either platinum wire or platinum Redi-Prongs®. If you have a laser, use the Platinum Redi-Prong® without the solder. Apply a 0.4mm beam (to avoid hitting the stone) at 210V and 2HZ for five milliseconds. It is simple and fast.



14-0021 Little Torch® 5-Piece Kit, **\$135.00**



29-0067 Platinum Soldering Goggles, #10, **\$17.05**



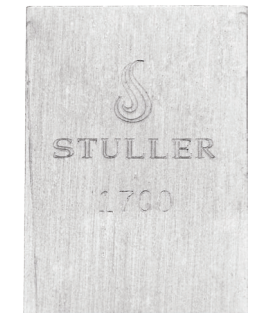
54-1800 High-Temperature Platinum Soldering Block, 4 1/4" x 4 1/4" x 1/2" **\$22.25**



21461 Redi-Prongs® Platinum Round Retipping Kit, **\$76.15**



23406 Redi-Prongs® Platinum Round Solderless Retipping Kit, **\$76.15**



SOLDER Platinum Cadmium-Free Sheet Solder, **\$55.59 per dtw**



57-7631 Titanium Tweezer with Fiber Grip, **\$32.90**

traditional sizing

Whether enlarging or reducing a ring, sizing with platinum is easier because it doesn't conduct heat as quickly as gold. But platinum can hold enough heat to damage even diamonds. You can either remove the stone or use a technique that protects it. (see below)



14-0760 Oxygen/Propane Small Torch Kit with 5 Tips and Regulators, **\$295.00**



54-1800 High-Temperature Platinum Solder Board, 4¼"x4¼"x½", **\$22.25**



54-4560 Dix Third Hand with Tweezer, **\$18.50**



54-1810 Soldering Pick for Platinum, **\$7.55**



SOLDER Platinum Cadmium-Free Sheet Solder, **\$55.59 per dtw**

If you're learning to work with platinum, here are just a few points to keep in mind.

It's best to use the same alloy as the ring. Platinum/ruthenium, platinum/cobalt, and platinum/iridium have different melting points.

If the ring has no stones, you can use 1,700°C solder. Solders below that will leave a dark line. And if you need to join platinum/cobalt and platinum/iridium, you must use 1,700°C solder.

All platinum solders flow at very high temperature. To avoid damaging a prong-set stone, submerge it in water, cover it with zinc cream, or orient the stone at 6 o'clock and the seam at 12 o'clock. Then direct the flame upward toward the seam in intermittent bursts.

modern day sizing *with a laser*

Whether you're sizing a platinum ring up or down, using a laser makes it faster, stronger, and easier. The laser's pinpoint accuracy means that you don't have to remove stones when you size.

 To see this in action, visit Stuller.com/VideoCenter and watch *How to Size up a Platinum Ring with a Laser Welder.*



14-0160 Orion™ Pulse 200i Welder, **\$7,900.00**



14-0110 Rofin® Basic XE-Power Laser Welder, 100 joule, **\$22,970.00**

Get to Know Your Laser Welder

Held at our headquarters in Lafayette, Louisiana, these laser welder training courses are designed to empower you with all the knowledge needed about your valuable investment. Whether you are a new owner, contemplating a purchase, or just need a refresher course, our tools experts will provide beneficial education about your Rofin® laser welder.

Learn more and sign up today at Stuller.com/LaserTraining.



SPEEDWIRE Platinum Iridium 36-Gauge 20-Foot Laser Wire Spool, **\$73.05**
SPEEDWIRE Platinum Ruthenium 30-Gauge 10-Foot Laser Wire Spool, **\$136.83**
SPEEDWIRE PT58 30-Gauge 10-Foot Laser Wire Spool, **\$127.32**
SPEEDWIRE Purple Reloadable Dispenser for Platinum or Palladium Wire, **\$23.00**



WIRE Platinum Ruthenium Laser Wire Spool, PLRU, 28 Gauge, 3 feet, **\$61.73**



WIRE Platinum Cobalt Laser Wire Spool, PLCU, 28 GA, 3 feet, **\$61.67**

know your platinum alloys *for casting in-house*

These are three of the platinum alloys Stuller sells, and they will meet your needs for die striking and casting. Understanding the technical aspects of these metals reinforces why they are preferred choices for specific applications.



Platinum/Ruthenium (Pt950/Ru)

Ruthenium is a grain refiner and gives the alloy a tight grain structure. In its wrought state, it has an annealed hardness of 120 HV (Vickers hardness) and a steady working hardness of approximately 220 HV. The alloy also has a high tensile strength. These three properties combine to give platinum/ruthenium good machining and polishing characteristics. **This makes it an excellent choice for die striking and tubing.** It is not a good choice for casting because its metal-mold reaction produces surface roughness. Fine section items are also difficult to fill due to ruthenium's affinity for oxygen, resulting in porosity.

Platinum/Iridium Pt900/Iridium

Of all the platinum alloys, it is the brightest and whitest, making it ideal for setting gemstones and diamonds. Stuller uses this for casting heads. This medium-hard alloy has an annealed hardness of 110 HV with fairly high ductility. **Traditionally, the most popular casting alloy in the U.S., Pt900/Iridium does not form an oxide film when molten (unlike Pt950/Ru) making it quite easy to create fine detail pieces.** Iridium has the highest melting point of all of the platinum group metals (2,454°C vs. 1,733°C for Pt), and the high temperature required to cast platinum/iridium can result in very slight surface erosion due to a metal-mold reaction. In its wrought state, it is quite soft and lacks good mechanical properties. When machining or polishing, it feels sticky and unmalleable.



Platinum/Cobalt (Pt950/Cobalt)

For many years, Pt950/Cobalt has been the casting alloy of choice in Europe, and today it is very popular with U.S. casters. Like ruthenium, it has good mechanical properties with similar hardness and tensile strength. Fortunately, cobalt suppresses oxygen in the melt, eliminating metal-mold reaction, improving fluidity and castability, and producing a good final hardness (135 HV). **This makes it great for intricate, hard castings.** A very slight gray-blue color may appear on the metal surface during casting. Remove it during joining operations by coating the piece in boric acid and heating it to an orange color. It is slightly magnetic so use extra care not to contaminate it.

Learn which platinum alloy you should use for which applications.

PT Alloy	Casting	Fabrication	Die Striking	Machining
90/10 Pt/Ir	Satisfactory	Excellent	Excellent	Poor
Pt950/Co	Excellent	Good	Good	Good
Pt950/Ru	Good	Excellent	Good	Excellent
Pt 950/Heat Treatable	Excellent	Good	Excellent	Excellent

MELTING POINTS

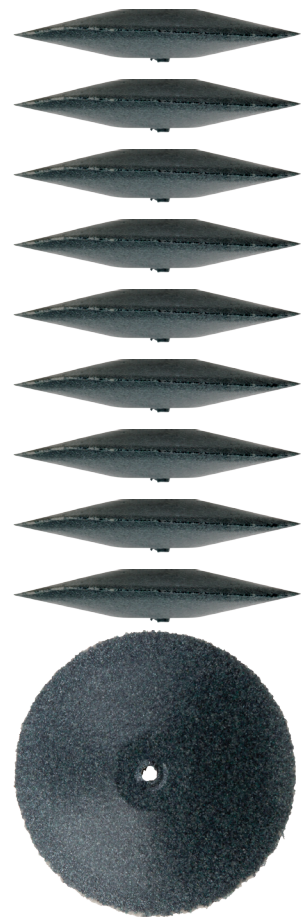
<p>Pure Platinum: 3,140°F or 1,733°C</p> <p>Pt950/Ruthenium: 3,266°F or 1,796°C</p>	<p>Pt950/Cobalt: 3,015°F or 1,657°C</p> <p>Pt900/Iridium: 3,236°F or 1,780°C</p>
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prep and polish

Angela Busby is a Master Bench Jeweler, Master Model Maker, and a Manufacturing Trainer at Stuller. She has worked extensively with platinum, demonstrates techniques at Stuller's annual Bench Jeweler Workshop, and has done a video on prepping and polishing a platinum ring. These are products Angela uses and recommends.



 To see the video visit [Stuller.com/VideoCenter](https://www.stuller.com/VideoCenter) and search for *How it Works: Working With Platinum*.



11-8124 Gray Knife-Edge Silicone Pre-Polish Wheels, 7/8"x1/4", Pack of 10, **\$6.05**



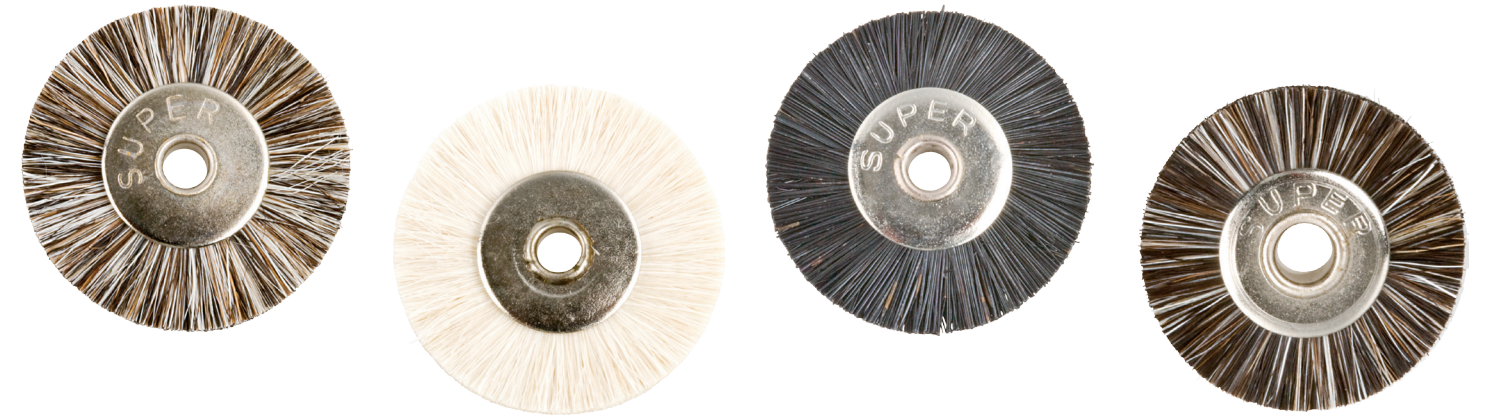
10-6093 Aluminum-Oxide Cartridge Abrasive Rolls, 600 grit, pack of 10, **\$7.20**



17-31500 Tapered Felt Inside Ring Buff, **\$3.34-\$4.55**



10-8181 3M® Light Deburring Wheel, fine grit, 6"x1"x1", **\$61.05**



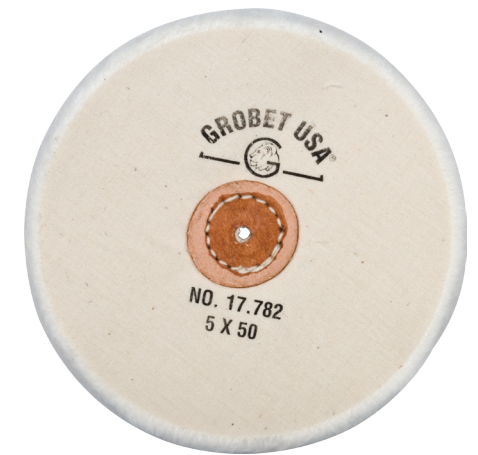
16-25002 Mounted Medium Bristle Brush, **\$4.30**



17-7254 Purple Treated Muslin Berry Buff Square Edge, 6", 4 row, 50 ply, **\$7.05**



47-3223 Merard AVIVOR Polishing Compound, 8 oz. **\$15.10**



17-7722 Finex Combed Muslin Buffs with Leather Center 5" / 50 Ply, **\$6.80**



47-3225 Merard ORAS Polishing Compound, 8 oz., **\$15.10**



47-3298 Graystar Compound, 1/4 lb. bar, **\$2.30**



17-9562 Paramount Felt Split Lap, pinhole center, 6"x3/8", medium, **\$43.30**

STULLER

PLATINUM



Above: **29625** Round 4-Prong Decorative Gallery Peg Setting, 6.5mm, 14K White, **\$23.50** | **SH639** Floral-Inspired Embossed Shank for Peg Setting, 14K White, **\$105.18** | **SH447** Diamond-Accented Shank for Peg Setting, ¼ CTW, Platinum, **\$376.95** | **29314** Oval Diamond Semi-set Halo-Style Peg Setting, 7x5mm, 0.10 CTW, 14K White, **\$153.21** | **54-1800** High Temperature Platinum Solder Board, **\$22.25**

Front cover: **GRAIN** Platinum Cobalt Casting/Rolling Grain, Alloy #0907, 4DWT, **\$203.21** | **SH3** Light Pinched Half-Round Shank for 4-Prong Setting, Platinum, **\$183.93** | **411** Round-Shape 4-Prong Low Shank Setting, 6-6.6mm, Platinum, **\$48.69** | **25-0000** Leather Sandbag, 6", 150mm, **\$26.30** | **37-1599** MKR-1 Fretz® Planishing Hammer, **\$40.35** | **SHEET** Platinum Ruthenium Sheet, 20 ga (.81mm), Bulk dwt, **\$366.23/sq. in.**

Stuller.com | 800 877 7777

Items are shown larger than actual size. Findings are priced at suggested retail based on \$1,300 gold and \$1,100 platinum. Tools and metals items are priced at jeweler's cost, and are sold each, unless otherwise noted. Prices are subject to change without notice. Visit Stuller.com for complete product selections, current pricing, and availability.

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