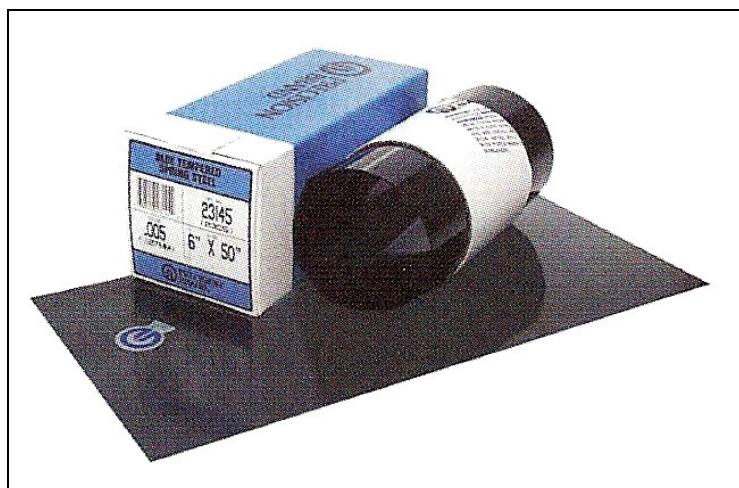
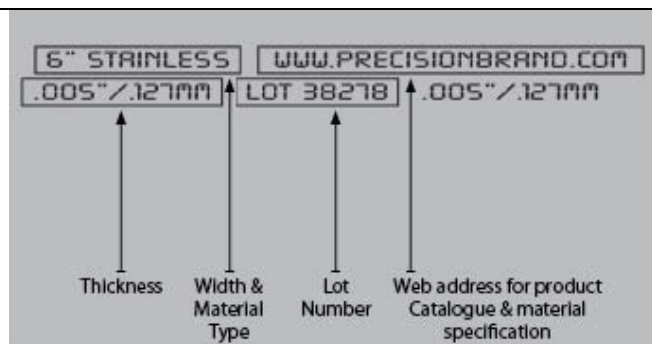


Precision Brand Blue Tempered Shim Stock

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Precision Brand Blue Tempered Shim Stock



Continuous Marking along length of Shim Roll:

Manufacturers Website
 Shim Width
 Shim Material
 Shim Thickness
 Traceable Lot Number

Accuracy Specifications:

Material and Mechanical Properties:

Inch

Thickness	Tolerance 3" Width	Tolerance 3" Width	Tolerance 3" Width
0.002 – 0.003	± 0.0005"		
0.004		± 0.0005"	
0.005 – 0.008			± 0.00075"
0.010 – 0.012			± 0.001"
0.015			± 0.0015"
0.020 - 0.032			± 0.002"

Material	Stainless Steel: Type 302
Carbon	0.90 – 1.04
Manganese	0.30 – 0.50 max
Phosphorous	0.04 Max.
Sulphur	0.05 Max.
Silicon	0.10 – 0.30
Hardness	48 – 51 HRC
Tensile Strength	230,000 PSI Approx.
Meets Specifications	SAE-1095 AMS-S122 AISI-1095 Similar: MIL S 7947

Precision Brand Blue Tempered Shim Stock

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Inch Shim Rolls

Code	Thickness inch	Thickness mm	Box Qty	Width in	Length in	Weight kilos	Weight lbs
77-723-110	0.002"	0.051	1	3"	50"	0.08	0.18
77-723-120	0.003"	0.076	1	3"	50"	0.10	0.22
77-723-130	0.004"	0.102	1	5"	50"	0.18	0.40
77-723-145	0.005"	0.127	1	6"	50"	0.25	0.54
77-723-155	0.006"	0.152	1	6"	50"	0.29	0.63
77-723-165	0.007"	0.178	1	6"	50"	0.34	0.74

Packed Weight and Dimensions

Code	Thickness inch	Weight kilos	W mm	H mm	L mm
77-723-110	0.002"	0.08	80	80	180
77-723-120	0.003"	0.10	80	80	180
77-723-130	0.004"	0.18	80	80	180
77-723-145	0.005"	0.25	80	80	180
77-723-155	0.006"	0.29	80	80	180
77-723-165	0.007"	0.34	80	80	180

Inch Shim Assortment Pack: 6" wide x 12" long

Code	Description	No. of Sheets	Individual Sizes in Pack	Weight Kilos
77-723-290	Blue Tempered Assortment Pack Inch	6	0.005", 0.010", 0.015", 0.020", 0.025", 0.032"	1.09
	Range: 0.005" – 0.032"			

Packed Weight and Dimensions

Code	Description	Weight Kilos	W mm	H mm	L mm
77-723-290	Blue Tempered Assortment Pack Inch	1.09	165	25	320
	Range: 0.005" – 0.032"				

Inch Shim Sheets: 6" x 25"

Code	Thickness inch	Thickness mm	Box Qty	Width in	Length in	Weight kilos	Weight lbs
77-723-170	0.008	0.203	2	6"	25"	0.50	1.10
77-723-180	0.010	0.254	2	6"	25"	0.59	1.30
77-723-200	0.012	0.305	2	6"	25"	0.68	1.50
77-723-220	0.015	0.381	2	6"	25"	0.77	1.70
77-723-240	0.020	0.508	2	6"	25"	0.95	2.10
77-723-260	0.025	0.635	2	6"	25"	1.18	2.60
77-723-280	0.032	0.813	2	6"	25"	1.45	3.20

Packed Weight and Dimensions

Code	Thickness inch	Thickness mm	Weight kilos	W mm	H mm	L mm
77-723-170	0.008	0.203	0.50	165	25	655
77-723-180	0.010	0.254	0.59	165	25	655
77-723-200	0.012	0.305	0.68	165	25	655
77-723-220	0.015	0.381	0.77	165	25	655
77-723-240	0.020	0.508	0.95	165	25	655
77-723-260	0.025	0.635	1.18	165	25	655
77-723-280	0.032	0.813	1.45	165	25	655

Precision Brand Blue Tempered Shim Stock

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Traceable Material Report

To obtain a Material Report covering the Shim you have purchased, please supply the following information marked on the shim and box to Precision Brand by email to mpotyrala@pbrand.com with the following information.

Example:

Material	Thickness	Width	Lot Number Marked on the shim	UPC Number
Blue Tempered Steel	0.005"	6"	3392801	23145



PRECISION BRAND PRODUCTS, INC.
 2250 CURTISS STREET
 DOWNERS GROVE, IL 60515 USA
 PHONE: (630) 969-7200 FAX: (630) 969-7275

7 December, 2007

.005" x 6" Blue Tempered & Polished Spring Steel

Chemical Analysis

Carbon (C)	1.000		
Manganese (Mn)	.4500		
Phosphorus (P)	.0100		
Sulfur (S)	.0005		
Silicon (Si)	.2800		
Chromium (Cr)	.1800		

Physical Properties

Hardness	RC 50/51
Tensile p.s.i.	275,572 / 304,579
Specification(s)	SAE 1095 AMS 5122 AISI 1095
Heat No.	579665
Coil No.	91708
Branded™ Shim No.	33928

We hereby certify that the above material conforms to the mill certificates provided by our suppliers for the material imprinted with the "Branded™ Shim" number listed above.

Sincerely Yours,
 Precision Brand Products, Inc.

K. Hahn

Digitally signed by K. Hahn
 DN: cn=K. Hahn, o=U.S.
 Precision Brand Products,
 ou=Precision Brand
 email=k.hahn@pbrand.com
 Date: 2007.12.07 10:25:48 -0800

Representative
 K. Hahn

Precision Brand Blue Tempered Shim Stock

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Material Safety Data Sheet



MATERIAL SAFETY DATA SHEET

Common Name:	Hardened & Tempered Carbon Steel
Trade Name(s):	Product Code:
Blue Temper Shim	23
Feeler Gage (Steel only)	09 & 19
Shoulder Screw Shims	26
Die Button Shims	26

Manufacturer	Phone number (for information)
Precision Brand Products, Inc.	(630) 969-7200
2250 Curtiss Street	Emergency Phone Number
Downers Grove IL 60515 USA	Chemtrec 800-424-9300 USA & Canada 202-483-7616 International
Date prepared: January 1, 2001	Date Reviewed: January 15, 2008

1. INGREDIENTS

Material or Component	% Weight	Exposure Limits	
		OSHA PEL (mg/m³)	ACGIH TLV (mg/m³)
Base Metal			
Iron (Fe)	Balance	10 (Fe ₂ O ₃ Fume)	5.0 (Fe ₂ O ₃ Fume)
Alloying Elements			
Aluminum (Al)	0.10 – 1.8	None listed	5.0 as welding fume
Carbon (C)	0.01-1.5	None listed	None Listed
Chromium (Cr)	0.01-1.2	1.0 as chrome	0.5 as chrome
Cobalt (Cb)	8 Max.	0.1 as cobalt & fume	0.05 as fume
Copper (Cu)	0.04-0.7	0.02 as copper, 1.0 as dust	0.2 as fume & 1.0 as dust
Lead (Pb)	0.15-0.35	0.05 as fume & dust	0.15 as dust & fume
Manganese (Mn)	0.05-2.0	5 as manganese	5 as dust & 1 as fume
Molybdenum (Mb)	0.01-1.10	15 as insoluble compounds	1.0 as insoluble compounds
Nickel (Ni)	0.01-1.0	1.0 as nickel	1.0 as nickel
Phosphorous (P)	0.15 Max.	0.1 as phosphorous	0.1 as phosphorous
Silicon (Si)	0.15-2.20	None listed	10 total dust
Sulfur (S)	0.001-0.35	13 sulfur dioxide	5 sulfur dioxide
Tungsten (W)	0-18	None listed	5 insoluble compounds
Vanadium (V)	0.01-10	0.5 dust & 0.1 fume	0.05 dust & fume
Zinc (Zn) coating	10 Max.	5.0 as fume	5.0 as fume
Note: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.			

2. PHYSICAL DATA

Material is (at normal conditions):		Appearance and Odor:	
<input type="checkbox"/> Liquid	<input checked="" type="checkbox"/> Solid	<input type="checkbox"/> Gas	<input type="checkbox"/> Other
Acidity/Alkalinity:	pH = NA	Specific Gravity (H ₂ O=1):	7
Melting Point:	Approx. 2750°F	Solubility in Water (% by wt):	NA
Boiling Point:	NA	Vapor Pressure (mm Hg @ 20°C)	NA

Precision Brand Blue Tempered Shim Stock

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Material Safety Data Sheet

Precision Brand Products, Inc. MSDS: Hardened & Tempered Carbon Steel

3. PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection:	NIOSH approved dust/mist/fume respirator should be used during welding or burning if OSHA PEL or TLV is executed.
Eyes & Face:	Safety glasses should always be worn when grinding or cutting; face shields should be worn when welding or burning.
Hands, Arms & Body:	Use appropriate protective clothing such as welder's aprons & gloves when welding or burning.
Other Clothing and Equipment:	As Required

4. EMERGENCY MEDICAL PROCEDURES

Inhalation:	Remove to fresh air. If condition continues, consult physician.
Eye Contact:	Immediately flush well with running water to remove particulate; get medical attention.
Skin Contact:	If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention.
Ingestion:	If significant amounts of metal are ingested, seek medical attention.

5. HEALTH/SAFETY INFORMATION

Steel products in the natural state do not present an inhalation, ingestion, or contact health hazard. However, operations such as welding, burning, sawing, brazing, grinding, and possibly machining, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulate may present hazards. The above operations should be performed in well ventilated areas. The major exposure hazard is inhalation.

Effects of Overexposure

Acute:	Excessive inhalation of all metallic fumes and dusts may result in irritation of the eyes, nose, and throat. Also, high concentrations of fumes and dusts of iron-oxide, manganese, copper, and selenium may result in metal fume fever. Typical symptoms consist of a metallic taste in the mouth, dryness and irritation of the throat, chills and fever, usually lasting from 12 to 48 hours.
Chronic:	Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to the conditions listed opposite the element:
Iron (Iron-oxide):	Pulmonary effects, siderosis.
Manganese:	Bronchitis, pneumonitis, lack of coordination.
Chromium:	Various forms of dermatitis, inflammation and/or ulceration of upper respiratory tracts, and possibly cancer of nasal passages and lungs. Based on available information, there does not appear to be any evidence that exposure to welding fume induces human cancer.
Nickel:	Same as Chromium
Selenium:	Nasal and bronchial irritation, gastro-intestinal disturbances, garlic odor of breath.
Copper:	Pulmonary effects
Vanadium:	No reported cases of exposure to vanadium.
Molybdenum:	Pain in joints, hands and feet.

Occupational Exposure Limits See section 1.

FIRE AND EXPLOSION

Flash Point:	NA	Flammable Limits in Air:	Lower: NA
Autoignition Temperature	NA		Upper: NA
Fire & Explosion Hazards	None	Extinguishing Media	NA
		Extinguishing Media Not to be used	NA

REACTIVITY

Stability:	Stable	Incompatibility (Materials to avoid)	Reacts with strong acids to form hydrogen gas
Conditions to Avoid:	Non-ventilated areas when cutting, welding, burning, or brazing. Avoid generation of airborne dusts and fumes.		
Hazardous Decomposition Products	Metallic Oxides.		

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Precision Brand Blue Tempered Shim Stock

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Material Safety Data Sheet

Precision Brand Products, Inc. MSDS: Hardened & Tempered Carbon Steel

6. ENVIRONMENTAL

Spill or Leak Procedures:	NA
Special Precautions:	Use good housekeeping practices to prevent accumulation of dust and to keep airborne dust to a minimum.
Waste Disposal Method	Dust, etc. – follow federal, state, and local regulations regarding disposal.

NOTE: The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, Precision Brand Products, Inc. makes no representation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgment in determining its appropriateness for a particular period. Accordingly, Precision Brand Products, Inc. will not be responsible for damages of any kind resulting from the use of or reliance upon such information. NO REPRESENTATIONS, OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER NATURE ARE MADE HEREUNDER TO WHICH THE INFORMATION REFERS. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.