

Henkel Industrial Solutions

# Metalworking Fluids Selector Guide



Excellence is our Passion



At Henkel Corporation, we provide solutions to industry's biggest challenges.



We are dedicated to understanding the markets we serve and developing partnerships that stand the test of time. Our customers have long recognized us as the leader in surface treatment, sealant, adhesive and metalworking lubricant technologies.

For more than 100 years, Henkel has been the leading supplier of state-of-the-art metal pretreatment and metalworking technologies. Henkel offers a full line of metalworking fluids designed to extend tool life, reduce wastes, improve quality and increase throughput. From straight oils to synthetics, our products for metal forming, metal removal and rust prevention contain necessary additives that meet the needs of light- to heavy-duty industry applications.

To help you compete in today's challenging manufacturing environment, our chemists and engineers work in partnership with our customers to improve design, assembly, productivity and profitability. Whether you need consultation on our products' performance or a turnkey process design, Henkel provides solutions.

## Henkel Brands

Since the early 1970s, Multan® branded products have been synonymous with metal removal and forming lubricants. From liquids to pastes, these water-miscible and non-water-miscible products are used in manual and automated application systems. Multan® branded products are available in fully synthetic, semi-synthetic, soluble or straight oil formulations.

Helping manufacturers since the late 1920s, P3® brand cleaners are for metallic and nonmetallic surfaces, fouling prevention and corrosion protection, together with disinfection of water and use with wastewater treatments. These products are liquid/powdery products designed for use in low- and high-temperature applications at different pH ranges (acid, neutral and alkaline), and in high-pressure applications, depending on customer conditions.

This selector guide will aid you in choosing the right solution and product for a wide range of common industrial challenges. **For additional information on Henkel products, please contact us at 1.800.562.8483.**

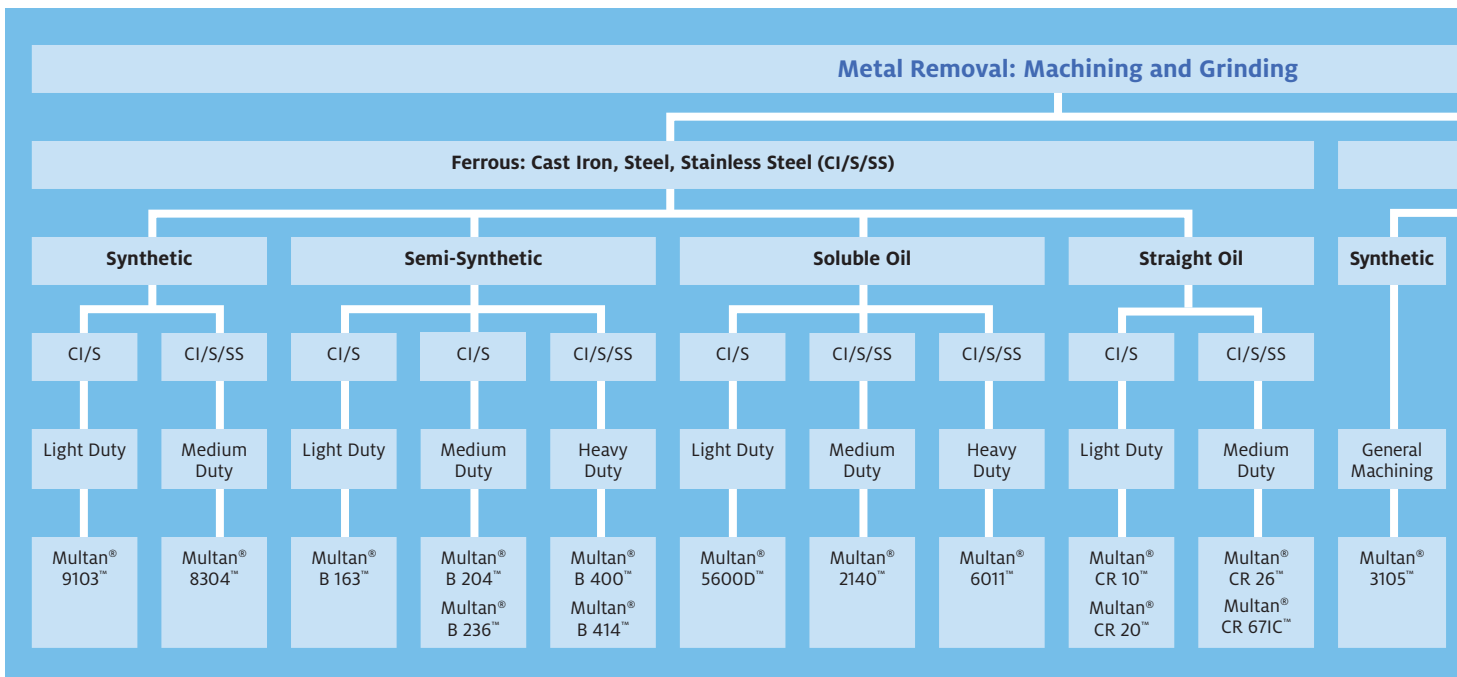


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## Metal Removal: Machining and Grinding



### Synthetic

**Multan® 3105™** – An oil-rejecting, synthetic fluid designed for machining, grinding and roll-forming ferrous and nonferrous alloys. It is also suitable for use on brass, copper and other exotic metals.

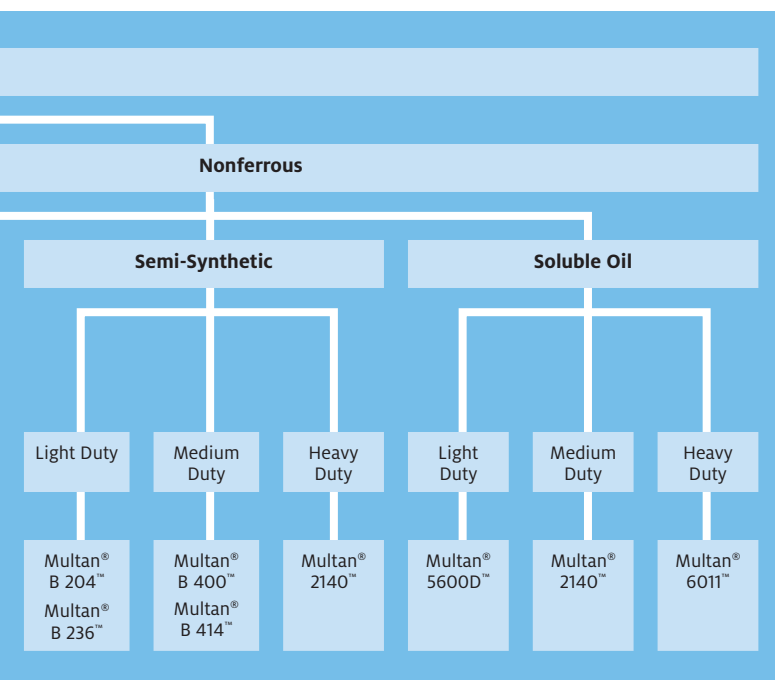
**Multan® 8304™** – Oil-absorbing, true solution synthetic fluid designed for machining and grinding ferrous and aluminum alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives, lubricity additives and biocides provides a durable, low-foaming, hard water-stable product for today's light to heavy machining and grinding operations.

**Multan® 9103™** – An oil-rejecting, synthetic metal-removal fluid that has multiple uses in today's manufacturing environment. For use on ferrous alloys only.

### Semi-Synthetic

**Multan® B 163™** – A low oil, water-soluble, semi-synthetic fluid. It is designed for light- to moderate-duty machining and grinding on both ferrous and nonferrous alloys. It can be used in applications where soft water or process requirements make foam more difficult to control. Its ability to maintain part and machine cleanliness allows it to run at lower makeup rates, which lower overall product consumption. Multan® B 163™ also provides a bio-resistant fluid system to help eliminate the need for routine additives and reduces total operational expenses.

**Multan® B 204™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and aluminum alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. For hard water usage.



**Multan® B 236™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and aluminum alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Ideal for applications where RO/DI water is used.

**Multan® B 400™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and nonferrous alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Its wide applicability makes it suitable for use on brass, copper and other exotic metals. It is also suitable on harder-to-machine alloys such as stainless steel, titanium or inconel. For hard water usage.

**Multan® B 414™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and nonferrous alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Its wide applicability makes it suitable for use on brass, copper and other exotic metals. It is also suitable on harder-to-machine alloys such as stainless steel, titanium or inconel.

**Multan® 2140™** is a unique oil dispersion and small particle emulsion, which makes it a product that can work in both semi-synthetic and soluble oil applications. Multan® 2140™ provides a clean running environment with the high lubrication normally found in both chemical applications.

## Soluble Oil

**Multan® 2140™** – A soluble oil fluid designed for machining and grinding ferrous and nonferrous alloys. Its unique composition of corrosion inhibitors, lubricity additives and bio-resistant components provide a durable product for today's moderate to heavy machining and grinding operations.

**Multan® 5600D™** – A water-soluble fluid designed for machining and grinding ferrous and aluminum alloys. It is not suitable for yellow metal alloys. Its high oil content provides excellent lubricity for various types of difficult operations.

**Multan® 6011™** – A soluble oil designed for machining and grinding ferrous alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives, lubricity additives and biocides provides a durable product for today's light to heavy machining and grinding operations.

### New Innovative Product

**Multan® B 583™** – A water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and aluminum alloys. It contains no secondary amines, making it suitable for use in operations to eliminate amines, and has also the advantage of bio-resistant technology. Its wide applicability makes it suitable for use on brass, copper and other exotic metals.

## Straight Oil

**Multan® CR 10™** – This moderate viscosity, straight oil with an additive package is useful in general machining applications such as hobbing, milling or shaping, ranging from steel gear machining to cutting-tool manufacturing.

**Multan® CR 20™** – A light viscosity oil designed for grinding ferrous and nonferrous alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives, anti-mist agents and lubricity additives provide a durable product for today's grinding and stamping operations.

**Multan® CR 26™** – The unique composition of corrosion inhibitors, extreme pressure (EP) additives, anti-mist agents and lubricity additives provides a durable, straight oil product for today's moderate broaching operation.

**Multan® CR 671C™** – A light viscosity oil designed for grinding ferrous and nonferrous alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives, anti-mist agents and lubricity additives provide a durable product for today's heavy-grinding operations.

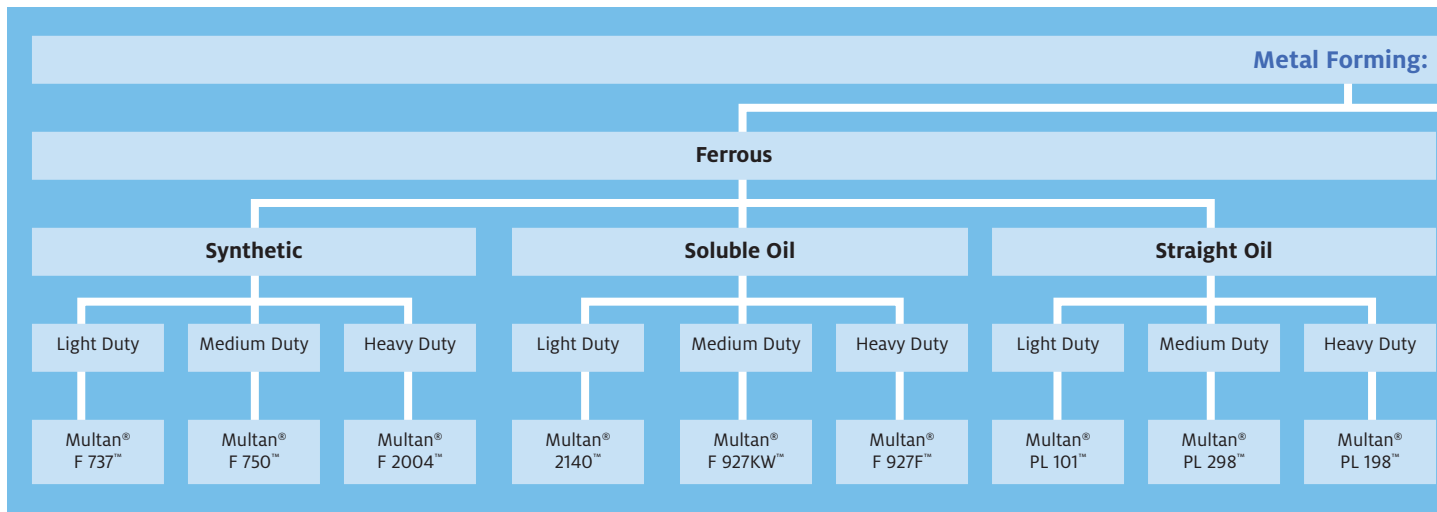


Metal Removal: Machining and Grinding

EP Additives

Product	Order Number	Container Weight (kg)	Container Size	Concentrate Color	Rust-Free Concentration % Cast Iron	Oil Content Range %	Typical Concentration	Phosphorus	Sulfur	Chlorine
Multan® 2140™	594451	18	Pail	Amber	N/A	50-55	3%-10%	—	—	—
	593822	191	Drum							
Multan® 3105™	598154	20	Pail	Translucent Yellow	4	0	5%-10%	—	—	—
	594286	214	Drum							
Multan® 5600D™	598193	17	Pail	Amber	N/A	85-90	5%-10%	—	—	—
	595510	192	Drum							
Multan® 6011™	1298358	18	Pail	Amber	N/A	70-90	5%-10%	—	—	✓
	594775	192	Drum							
Multan® 8304™	596622	20	Pail	Amber	N/A	N/A	5%-10%	✓	—	—
	595400	216	Drum							
	1684612	1290	Tote							
Multan® 9103™	593832	20	Pail	Blue	3	0	5%-10%	—	—	—
	596262	213	Drum							
Multan® B 163™	1533657	18	Pail	Amber	2	10-15	6%-10%	✓	—	—
	1533660	202	Drum							
Multan® B 204™	1052097	18	Pail	Amber	2	20-25	6%-10%	✓	—	—
	1052551	202	Drum							
Multan® B 236™	1286460	18	Pail	Amber	2	20-25	6%-10%	✓	—	—
	1286491	202	Drum							
Multan® B 400™	706695	18	Pail	Amber	2	25-30	6%-10%	✓	✓	—
	677532	197	Drum							
Multan® B 414™	1183211	18	Pail	Amber	2	25-30	6%-10%	✓	✓	—
	1183199	197	Drum							
Multan® B 583™	1540598	18	Pail	Brown	N/A	25-30	5%-10%	✓	✓	—
	1540597	200	Drum							
	1540596	1190	Tote							
Multan® CR 10™	593816	16	Pail	Amber	N/A	90-95	100%	✓	—	—
Multan® CR 20™	594248	181	Drum	Amber	N/A	90-95	100%	✓	—	—
	595037	1080	Tote							
Multan® CR 26™	910512	16	Pail	Amber	N/A	90-95	100%	—	✓	—
	910511	175	Drum							
	910480	1040	Tote							
Multan® CR 67IC™	867957	17	Pail	Amber	N/A	90-95	100%	✓	—	✓

## Metal Forming: Drawing and Stamping



### Synthetic

**Multan® F 737™** – True solution synthetic fluid designed for stamping and drawing. Its unique composition makes it a preferred choice to replace solvent-based evaporative lubricants. Product is safe on steel, galvanized materials and aluminum.

**Multan® F 738™** – A water-soluble, synthetic fluid designed for use on light to heavy forming applications. It is ideal for ferrous metals and heavy forming of nonferrous metals. Multan® F 738™ can be used in applications such as stamping, bending, progressive dies or deep bending. The concentration range of this product makes it applicable for mower decks, perforated metal sheets, aluminum extrusions or to replace high VOC vanishing oils.

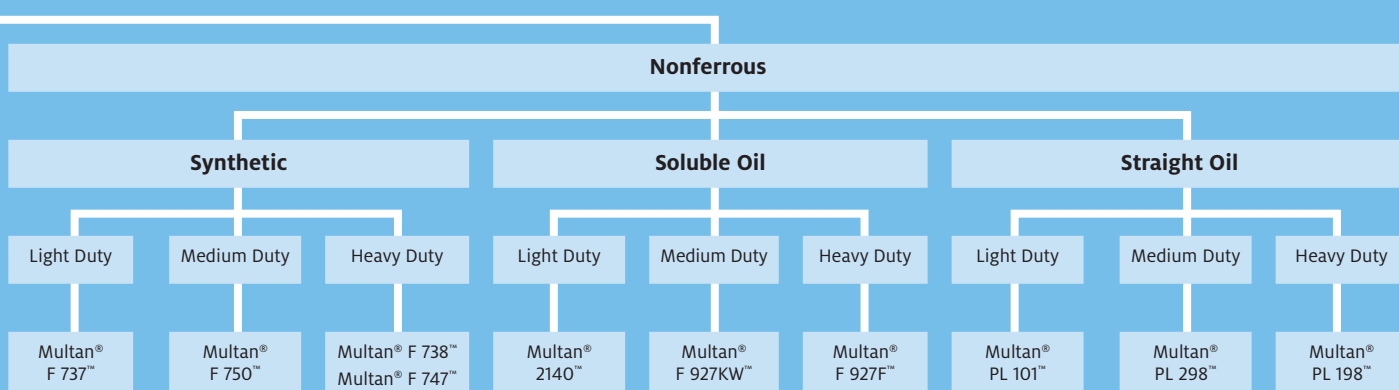
**Multan® F 747™** – Synthetic-based compound designed for drawing ferrous, galvanized and aluminum alloys. Its unique composition of corrosion inhibitors and lubricity additives provides a durable product for today's heavy drawing operations.

**Multan® F 750™** – A water-soluble synthetic fluid designed for use on light to heavy forming applications. Multan® F 750™ contains a temperature-activated polymer, which is ideal for settings where elevated metal temperatures may occur in the operation.

**Multan® F 2004™** – A synthetic compound designed for deep-drawing and stamping of ferrous and aluminum alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives and lubricity additives provides a durable product for today's moderate to heavy drawing and stamping operations.



## Drawing and Stamping



## Soluble Oil

**Multan® 2140™** – A soluble oil fluid designed for machining and grinding ferrous and nonferrous alloys. Its unique composition of corrosion inhibitors, lubricity additives and bio-resistant components provides a durable product for today’s moderate to heavy machining and grinding operations.

**Multan® F 927F™** – A soluble oil designed for drawing and stamping of ferrous, galvanized, aluminum and copper alloys. Its unique composition of corrosion inhibitors and extreme pressure (EP) additives provide a durable product for today’s heavy drawing and stamping operations.

**Multan® F 927KW™** – A soluble oil designed for drawing and stamping of ferrous, galvanized and aluminum alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives and lubricity additives provides a durable product for today’s heavy drawing and stamping operations.

## Straight Oil

**Multan® PL 101™** – A multi-functional petroleum-based product for use on plain steel, coated steels and aluminum. The product performs equally well as a mill “slushing” ship-out oil, an ancillary rust preventative spray and a coil/blank-washing fluid. It can be used to manufacture body panels, Class A surfaces or frame rails.

**Multan® PL 198™** – An oil-based compound designed for tube hydroforming of ferrous and aluminum alloys. Its unique composition of extreme pressure (EP) additives and lubricity additives provides a durable product for today’s heavy tubular hydroforming operations. Its unique properties including viscosity allow it to be used also in heavy or deep draws. Rollcoating, dripping, flooding, airless spraying, hand applying and other techniques are suitable for application of the product to metal surfaces.

**Multan® PL 298™** – An oil-based compound designed for tube hydroforming of ferrous and aluminum alloys. Its moderate viscosity allows for a wide range of additional uses in heavy metal forming operations.



**Metal Forming: Drawing and Stamping**

Product	Order Number	Container Weight (kg)	Container Size	Viscosity (cP)	Typical Dilution	Boundary		EP Additives		
						Fatty Acids	Esters	Phosphorus	Sulfur	Chlorine
Multan® F 737™	985614	18	Pail	13 @ RT	Neat	✓	✓	—	—	—
	595800	200	Drum							
Multan® F 738™	622990	18	Pail	Not Tested	10%-100%	✓	—	—	—	—
	594840	204	Drum							
Multan® F 747™	597523	18	Pail	Not Tested	5%-50%	✓	—	—	—	—
	595363	204	Drum							
Multan® F 750™	596044	18	Pail	120	5%-100%	✓	—	—	—	—
	595446	209	Drum							
Multan® F 927F™	598113	18	Pail	Not Tested	10%-100%	—	—	—	—	✓
	593842	222	Drum							
Multan® F 927KW™	594263	19	Pail	Not Tested	10%-100%	—	—	—	—	✓
	595294	204	Drum							
Multan® PL 198™	721888	18	Pail	380 @ 100°F	100%	✓	—	✓	✓	—
	772632	191	Drum							
Multan® PL 298™	928486	15	Pail	250	100%	✓	—	✓	✓	—
	928485	181	Drum							
Multan® F 2004™	635811	18	Pail	1200	5%-50%	✓	—	✓	—	—
	772350	215	Drum							



Metal Forming: Drawing and Stamping, continued

EP Additives

Product	Order Number	Container Weight (kg)	Container Size	Concentrate Color	Viscosity — H <sub>2</sub> O Solubles (cP), Oils (SUS @ 100 °F)	Oil Content Range %	Typical Concentration	Phosphorus	Sulfur	Chlorine
Multan® 2140™	594451	18	Pail	Amber	160	50-55	10%-100%	—	—	—
	593822	191	Drum							

Metal Forming: Drawing and Stamping, continued

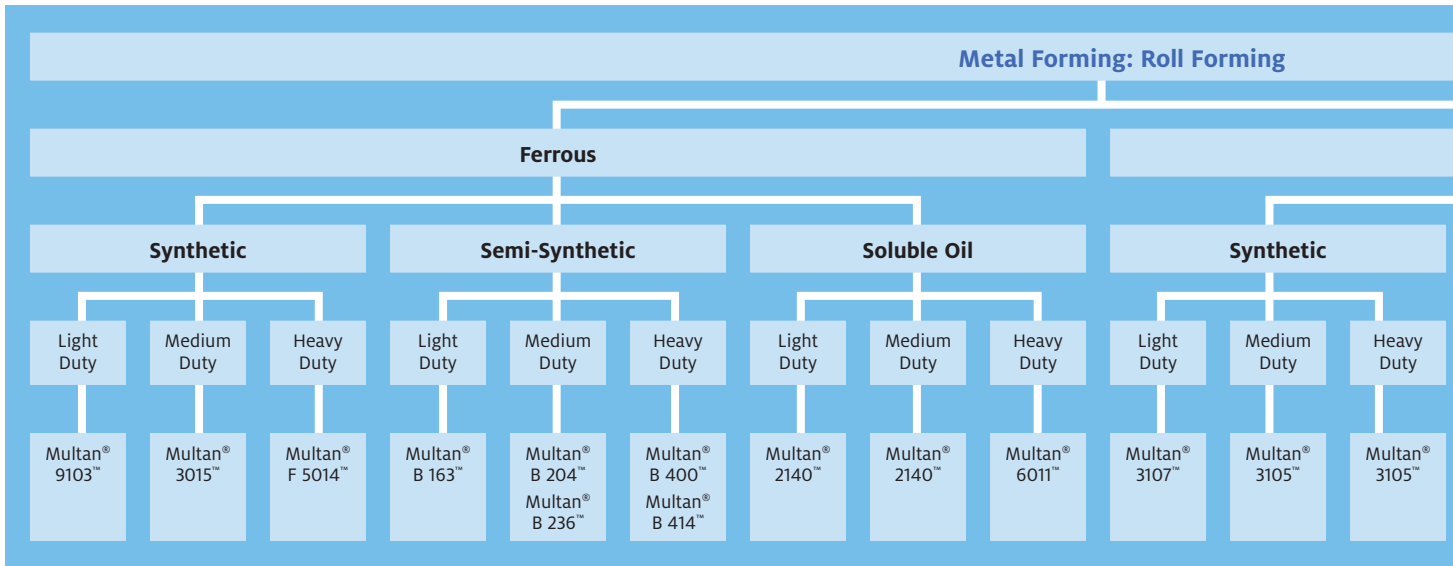
Application

Film

Product	Order Number	Container Weight (kg)	Container Size	Storage	% Solids	Typical Dilution	Spray	Immersion	Wax	Tacky	Oil	Fluid	Plastic/ Crystalline
Multan® PL 101™	783463	16	Pail	Extended	100	100%	✓	✓	—	—	✓	—	—
	594526	179	Drum										



# Metal Forming: Roll Forming



## Synthetic

Henkel's synthetic metal-forming products for roll forming are capable of meeting all metal types and end-use production needs.

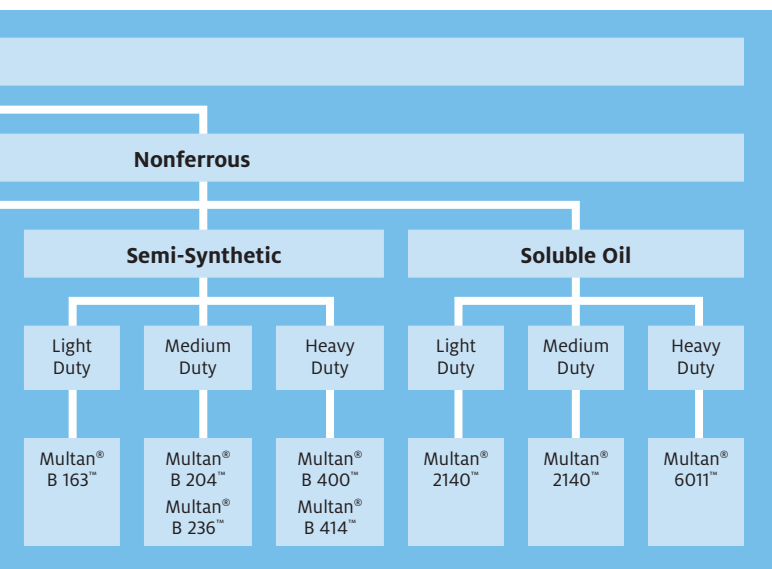
**Multan® 3015™** – An oil-rejecting, synthetic fluid designed for machining, grinding and roll-forming ferrous and nonferrous alloys. It is also suitable for use on brass, copper and other exotic metals.

**Multan® 3105™** – An oil-rejecting, true solution synthetic fluid designed for machining and roll forming ferrous and nonferrous alloys. Its unique composition provides a durable low-foaming, hard-water-stable product for today's machining and light forming operations.

**Multan® 3107™** – True solution synthetic fluid designed for ferrous and most nonferrous alloys. Its unique composition of corrosion inhibitors, lubricity additives and biocides provides a durable product for today's tube forming and moderate machining and grinding operations. Particularly suitable for galvanized and zinc-coated steel.

**Multan® F 5014™** – A synthetic compound designed for drawing and stamping of ferrous, galvanized and nonferrous alloys. Its unique composition of corrosion inhibitors, lubricity additives and biocides provides a durable product for today's moderate drawing and stamping operations.

**Multan® 9103™** – An oil-rejecting, synthetic metal removal fluid that has multiple uses in today's manufacturing environment. For use on ferrous alloys only.



## Semi-Synthetic

**Multan® B 163™** – A low oil, water-soluble, semi-synthetic fluid designed for light- to moderate-duty machining and grinding on both ferrous and nonferrous alloys. It can be used in applications where soft water or process requirements make foam more difficult to control. Its ability to maintain part and machine cleanliness allows it to run at lower makeup rates, lowering overall product consumption. Multan® B 163™ also provides a bio-resistant fluid system to help eliminate the need for routine additives and to reduce total operational expenses.

**Multan® B 204™** – A low foam, water soluble, semi-synthetic fluid designed for machining and grinding ferrous and aluminum alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Ideal for applications where RO/DI water is used. For use in hard water.

**Multan® B 236™** – A low foam, water soluble, semi-synthetic fluid designed for machining and grinding ferrous and aluminum alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Ideal for applications where RO/DI water is used.

**Multan® B 400™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and nonferrous alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Its wide applicability makes it suitable for use on brass, copper and other exotic metals. It is also suitable on harder-to-machine alloys such as stainless steel, titanium or inconel. For hard water usage.

**Multan® B 414™** – A low foam, water-soluble, semi-synthetic fluid designed for machining and grinding ferrous and nonferrous alloys. It is designed for use in areas where soft water or process requirements make foam difficult to control. Its wide applicability makes it suitable for use on brass, copper and other exotic metals. It is also suitable on harder-to-machine alloys such as stainless steel, titanium or inconel.



## Soluble Oil

**Multan® 2140™** – A soluble oil fluid designed for machining and grinding ferrous and nonferrous alloys. Its unique composition of corrosion inhibitors, lubricity additives and bio-resistant components provide a durable product for today's moderate to heavy machining and grinding operations.

**Multan® 6011™** – A soluble oil designed for machining and grinding ferrous alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives, lubricity additives and biocides provides a durable product for today's light to heavy machining and grinding operations.



Metal Forming: Roll Forming

Product	Order Number	Container Weight (kg)	Container Size	Concentrate Color	Rust-Free Concentration % Cast Iron	Viscosity H <sub>2</sub> O Solubles (cP) = Oils (SUS @ 100°F)	Oil Content Range %	Typical Concentration	EP Additives		
									Phosphorus	Sulfur	Chlorine
Multan® 2140™	594451	18	Pail	Amber	N/A	160	50-55	3%-10%	—	—	—
	593822	191	Drum								
Multan® 3015™	598154	20	Pail	Yellow	4	N/A	0	5%-10%	—	—	—
	594286	214	Drum								
Multan® 3105™	598807	18	Pail	Pale Amber	4	N/A	0	5%-10%	—	—	—
	599088	211	Drum								
Multan® 3107™	597524	209	Drum	Clear Orange	4	N/A	0	5%-10%	—	—	—
Multan® 6011™	1298358	18	Pail	Amber	N/A	170	70-90	5%-10%	—	—	✓
	594775	192	Drum								
Multan® 9103™	593832	20	Pail	Blue	3	N/A	0	5%-10%	—	—	—
	596262	213	Drum								
Multan® B 163™	1533657	18	Pail	Amber	2	N/A	10-15	5%-10%	✓	—	—
	1533660	202	Drum								
Multan® B 204™	1052097	18	Pail	Amber	2	N/A	20-25	5%-10%	✓	—	—
	1052551	202	Drum								
Multan® B 236™	128460	18	Pail	Amber	2	200	20-25	5%-10%	✓	—	—
	128491	202	Drum								
Multan® B 400™	706695	18	Pail	Amber	2	275	25-30	5%-10%	✓	✓	—
	677532	197	Drum								
Multan® B 414™	1183211	18	Pail	Amber	2	275	25-30	5%-10%	✓	✓	—
	1183199	197	Drum								
Multan® F 5014™	594495	211	Drum	Light Amber	N/A	N/A	0	5%-10%	—	—	—



## Evaporative Lubricants

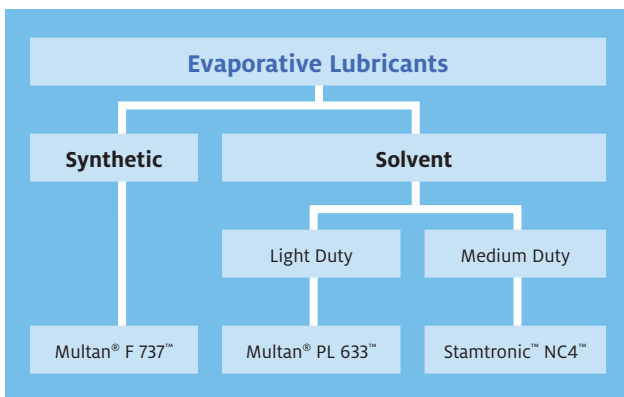
### Synthetic

**Multan® F 737™** – True solution synthetic fluid designed for stamping and drawing. Its unique composition makes it a preferred choice to replace solvent-based evaporative lubricants. Product is safe on steel, galvanized materials and aluminum.

### Solvent

**Multan® PL 633™** – Solvent-based fluid designed for use on light- to medium-forming applications. These applications could include stamping, punching, piercing or bending of metals. This product is suitable on all metal substrates including pre-painted materials. Examples of product usage include fin manufacturing, frames, brackets or floor molding.

**Stamtronic™ NC4™** – A solvent-based compound designed for stamping of ferrous and galvanized alloys. Its unique composition of corrosion inhibitors, extreme pressure (EP) additives and lubricity additives provides a durable product for today's light stamping operations.



Evaporative Lubricants

Product	Order Number	Container Weight (kg)	Container Size	Viscosity (cP)	Typical Dilution	Boundary		EP Additives		
						Fatty Acids	Esters	Phosphorus	Sulfur	Chlorine
Multan® F 737™	985614	18	Pail	13 @ RT	Neat	✓	✓	—	—	—
	595800	200	Drum							
Multan® PL 633™	594867	152	Drum	30 @ RT	100%	—	✓	—	—	—
Stamtronic™ NC4™	595414	16	Pail	2 @ 100°F	10%-100%	—	✓	—	—	—
	594712	180	Drum							



## Process Cleaners with Rust Preventatives

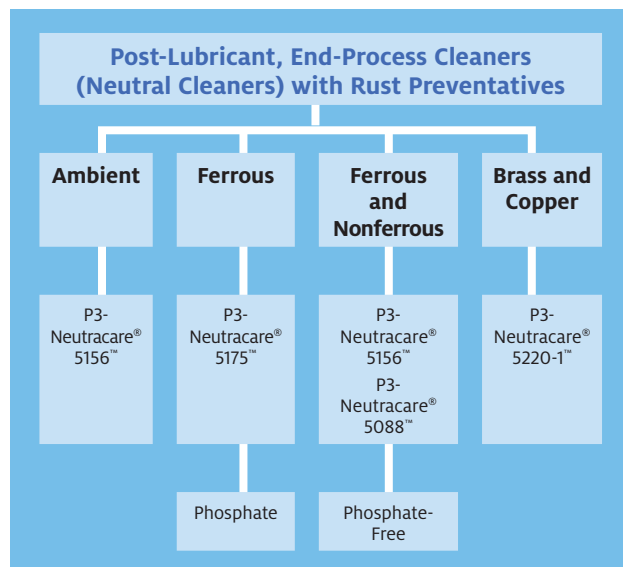
### Neutral Cleaners

The unique composition of alkalinity, corrosion inhibitors and surfactants provides a durable, low-foaming, hard water-stable product for today's light- to moderate-duty cleaning and protecting needs.

**P3-Neutraceutical® 5088™** – A neutral-based cleaner with corrosion inhibitors designed for short-term corrosion protection on ferrous alloys, provides a durable, low-foaming product for moderate-duty corrosion protection.

**P3-Neutraceutical® 5156™** – A neutral-based in-process cleaner with corrosion inhibitors designed for short-term corrosion protection on ferrous and aluminum alloys. Its unique composition of alkalinity, corrosion inhibitors, surfactants and biocides provides a durable low-foaming product for today's light- to moderate-duty cleaning and protecting needs.

**P3-Neutraceutical® 5175™** – A phosphated neutral cleaner with in-process corrosion prevention, designed to be used at a moderate temperature (120°F-160°F). For use on ferrous alloys only.



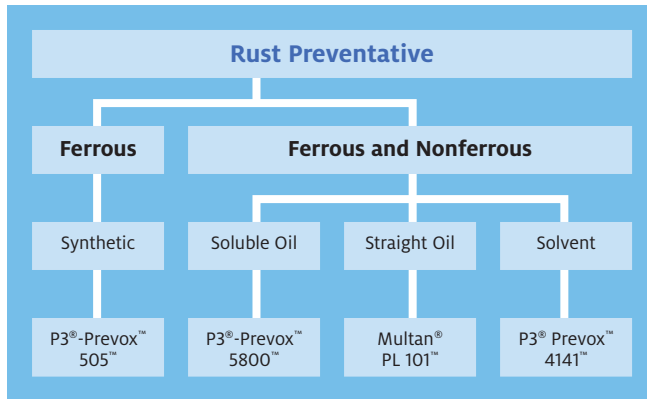
**P3-Neutraceutical® 5220-1™** – Neutral-based, in-process cleaner with corrosion inhibitors designed for short-term corrosion protection on ferrous, galvanized and aluminum alloys. Its unique composition of builders, corrosion inhibitors and surfactants provides a durable, low-foaming product for today's light- to moderate-duty cleaning and protecting needs.

### Process Cleaners with Rust Preventatives

#### Temperature Range

Product	Order Number	Container Weight (kg)	Container Size	Cleaner Type	Oil Splitting	Ambient to 120°F	120°F to 160°F	160°F and Above	Spray	Immersion	Borates	Phosphates
P3-Neutraceutical® 5088™	597578	18	Pail	Organic	✓	–	✓	✓	✓	✓	–	–
	593241	209	Drum			–	–	–	–	–		
P3-Neutraceutical® 5156™	596348	18	Pail	Organic	✓	✓	–	–	✓	✓	–	–
	594045	211	Drum			–	–	–	–	–		
P3-Neutraceutical® 5175™	1265623	18	Pail	Organic	✓	–	✓	–	✓	✓	✓	✓
	1265826	232	Drum			–	–	–	–	–		
P3-Neutraceutical® 5220-1™	595321	18	Pail	Organic	✓	–	✓	–	✓	✓	✓	✓
	594241	234	Drum			–	–	–	–	–		

## Corrosion Preventatives



### Synthetic

**P3®-Prevox™ 505™** – A synthetic corrosion inhibitor designed for short-term corrosion protection on ferrous alloys. Its unique composition provides a durable, low-foaming product for today's moderate-duty corrosion protecting needs.

### Soluble Oil

**P3®-Prevox™ 5800™** – A soluble oil corrosion inhibitor designed for long-term corrosion protection on ferrous and non-ferrous alloys. Its unique composition provides a durable product for today's corrosion protecting needs.

## P3® Prevox™ Series of Corrosion Preventatives

The P3® Prevox™ Series includes a full line of corrosion preventative fluids designed to extend life, improve quality and increase throughput. From synthetics to straight oils, our products for corrosion prevention contain necessary additives that meet the needs of light- to heavy-duty industry applications.

### Straight Oil

**Multan® PL 101™** – This highly versatile oil-based product with multiple OEM approvals is used for light forming and can also serve as a ship-out rust preventative.

### Solvent

**P3® Prevox™ 4141™** – This rust inhibiting, solvent-based corrosion inhibitor is designed for extended corrosion protection on ferrous and nonferrous alloys. Its high flash point (143°F) allows for a safer work environment without compromising rust protection.

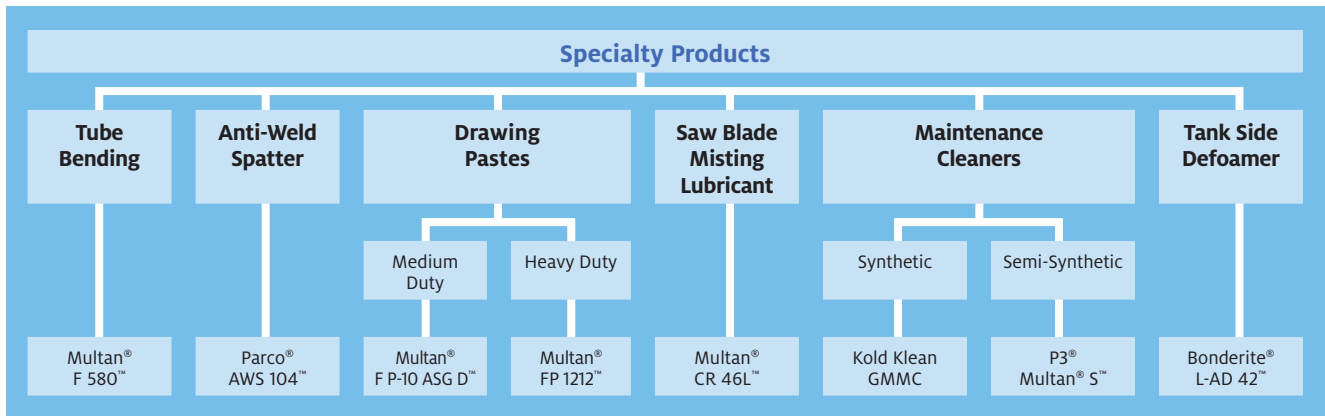
## Corrosion Preventatives

Product	Order Number	Container Weight (kg)	Container Size	Storage	Typical Storage Time*	% Solids	Typical Dilution	Application		Film				
								Spray	Immersion	Wax	Tacky	Oil	Fluid	Plastic/ Crystalline
Multan® PL 101™	783463	16	Pail	Extended	3 Months	100	100%	✓	✓	—	—	✓	—	—
	594526	179	Drum											
P3®-Prevox™ 505™	596698	18	Pail	Short-Term	4 Weeks	N/A	3%-20%	✓	✓	—	—	—	✓	—
	594827	213	Drum											
P3® Prevox™ 4141™	879523	14	Pail	Extended	6 Months	N/A	100%	✓	✓	✓	—	—	—	—
	879524	161	Drum											
P3®-Prevox™ 5800™	772736	16	Pail	Extended	3 Months	99	3%-20%	✓	✓	—	—	✓	—	—
	772735	184	Drum											

\* Typical storage time will vary depending upon concentration, environmental conditions and storage.



## Specialty Products



### Tube Bending

**Multan® F 580™** – A heavy non-mineral oil product designed for medium to heavy draws of metal sheet blanks and tubes. The product contains chlorine-free extreme pressure and polarity additives for improved metal flow with difficult draws. Detergents have been added to help with removal in most cleaning processes. It is suitable to use on ferrous, galvanized, aluminum and yellow metals.

### Anti-Weld Spatter

**Parco® AWS 104™** – A water-based, synthetic, body-in-white, anti-weld spatter agent material that stays wet after application. This product is applied prior to a welding operation and reduces the deposit of weld spatter on the unpainted metal.

### Drawing Pastes

**Multan® F P-10 ASG D™** – A paste suitable for use on ferrous and aluminum alloys. Its unique composition of corrosion inhibitors and lubricity additives provide a durable product for today's light to medium drawing and stamping operations. Rollcoating, dripping, flooding, hand application and other techniques are suitable for application to the metal surface.

### Drawing Pastes (Continued)

**Multan® FP 1212™** – A paste designed for cold forging, forming, drawing and bending of ferrous, stainless steel and nonferrous alloys. Its unique composition of lubricity additives and wetting agents provides a durable product for today's heavy-duty drawing, cold forging, forming and bending operations. Rollcoating, dripping, flooding, airless spraying, hand applying and other techniques are suitable for application to the metal surface.

### Saw Blade Misting Lubricant

**Multan® CR 46L™** – A low viscosity lubricant designed to be used in mist applications. This material provides the advanced lubricity required for sawing and machining in minimum quantity (near-dry) operations. It is compatible and non-staining on ferrous and nonferrous alloys. Multan® CR 46L™ is designed from synthetic base stocks and contains no mineral oil. It can be removed with most alkaline or neutral cleaning systems.

Specialty Products

Product	Order Number	Container Weight (kg)	Container Size	Viscosity (cP)	Typical Dilution	Boundary		EP Additives		
						Fatty Acids	Esters	Phosphorus	Sulfur	Chlorine
Bonderite® L-AD 42™	1736322	208	Drum	1000-2000 @ 25°C	15-1000 ppm	—	—	—	—	—
Kold Kleen GMMC	594207	220	Drum	Not Tested	2%-10%	—	—	—	—	—
Multan® CR 46L™	1367634	16	Pail	6 @ 100°F	100%	—	✓	—	—	—
Multan® F 580™	772738	16	Pail	1340 @ 100°F	100%	—	—	—	—	—
	764066	175	Drum							
Multan® F P-10 ASG D™	867547	18	Pail	5000-9000	100%	✓	—	—	—	—
	738213	191	Drum							
Multan® FP 1212™	597822	23	Pail	Not Tested	5%-100%	✓	✓	—	—	—
	593209	247	Drum							
P3® Multan® S™	596071	18	Pail	Not Tested	1%	—	—	—	—	—
	596164	200	Drum							

Specialty Products (continued)

Product	Order Number	Container Weight (kg)	Container Size	Liquid	Spray	Immersion	Etch		Builders			
							Heavy Etch on Aluminum & Zinc	Operating Temperature	Sodium	Potassium	Phosphate	Glucuronate
Parco® AWS 104™	593055	20	Pail	✓	✓	✓	✓	140°F-210°F	—	✓	✓	✓
	593056	206	Drum									

## Maintenance Cleaners

**Kold Kleen GMMC** is a low foaming alkaline-based cleaner or in-process cleaner designed to meet all plant housekeeping and general machine cleaning maintenance requirements. Its unique composition of surfactants, wetting agents, co-solvents, and anti-rust compounds provide a synergistic blend that is a surface-active true solution when mixed with water.

**P3® Multan® S™** – A system cleaner designed to emulsify tramp oils and other contaminations in coolant systems. P3® Multan® S™ circulates with the coolant while production continues to operate and cleans the machine.

## Tank Side Defoamer

**Bonderite® L-AD 42™** is a free-rinsing, tank side defoamer and is proven to be highly successful on a variety of surfactant-based foams. Bonderite® L-AD 42™ will effectively control foam generated in metalworking and metalforming fluids and various chemical applications.



## Metalworking/Forming Opportunity Qualification Survey

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1. Do you have any machining operations that are not meeting your current production needs and quality specifications?
2. What kind of problems are you experiencing (i.e. foul odors, flash rusting, dermatitis, tramp oil, premature tool failure, etc.)?
3. If you could extend your current system change-out schedule, would that bring value to your operation?
4. What performance improvements would you expect from a metalworking fluid that you are not experiencing with your current products?
5. Would you be interested to hear more about Henkel's market-leading metalworking products that have been designed to enhance your overall quality and performance standards and to test them in your machining operation?



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