

# MULTIDRAW®

HIGH-PERFORMANCE LUBRICANTS  
FOR SHEET METAL FORMING



**Zeller+Gmelin**  
Mineralöle • Druckfarben • Chemie



# MULTIDRAW® – High-performance lubricants for forming

## MULTIDRAW® – High-performance lubricants in the truest sense of the word.

We offer a wide range for nearly all areas of non-cutting metal forming. In many cases products containing chlorine can be replaced.

In co-operation with partners of the automotive industry Zeller+Gmelin has developed pathbreaking products, in particular in the area of low lubricant metal forming. In 1996 MULTIDRAW PL 61 was the first pre-lubricant approved by the VDA (German Automotive Association) – forging press forum. MULTIDRAW KTL N 16 was the first product to be approved by the VDA for additional greasing in 2002.

In November 2009 Zeller+Gmelin again was the first producer receiving the VDA-approval for hotmelt Drylube E1.

These product approvals are examples of our innovate capabilities and the close co-operation with our customers. Our specialists quickly take down the technical requirements on location. Then, solutions specifically for the application are developed together with our R+D laboratories.

Together with our Fluidmanagement GmbH we offer you tailored application solutions as well as recycling and waste management concepts in the framework of our Chemical Management.

## We offer the following advantages:

- a wide range for the various areas of applications
- all-purpose types
- reduction of the type variety and amount of lubricant
- ideal tribological behaviour
- welding and gluing without previous degreasing
- high surface quality
- high tool lifetimes
- products low in oil mist and evaporation
- high corrosion protection
- fulfilment of the latest requirements for protection of health and industrial safety

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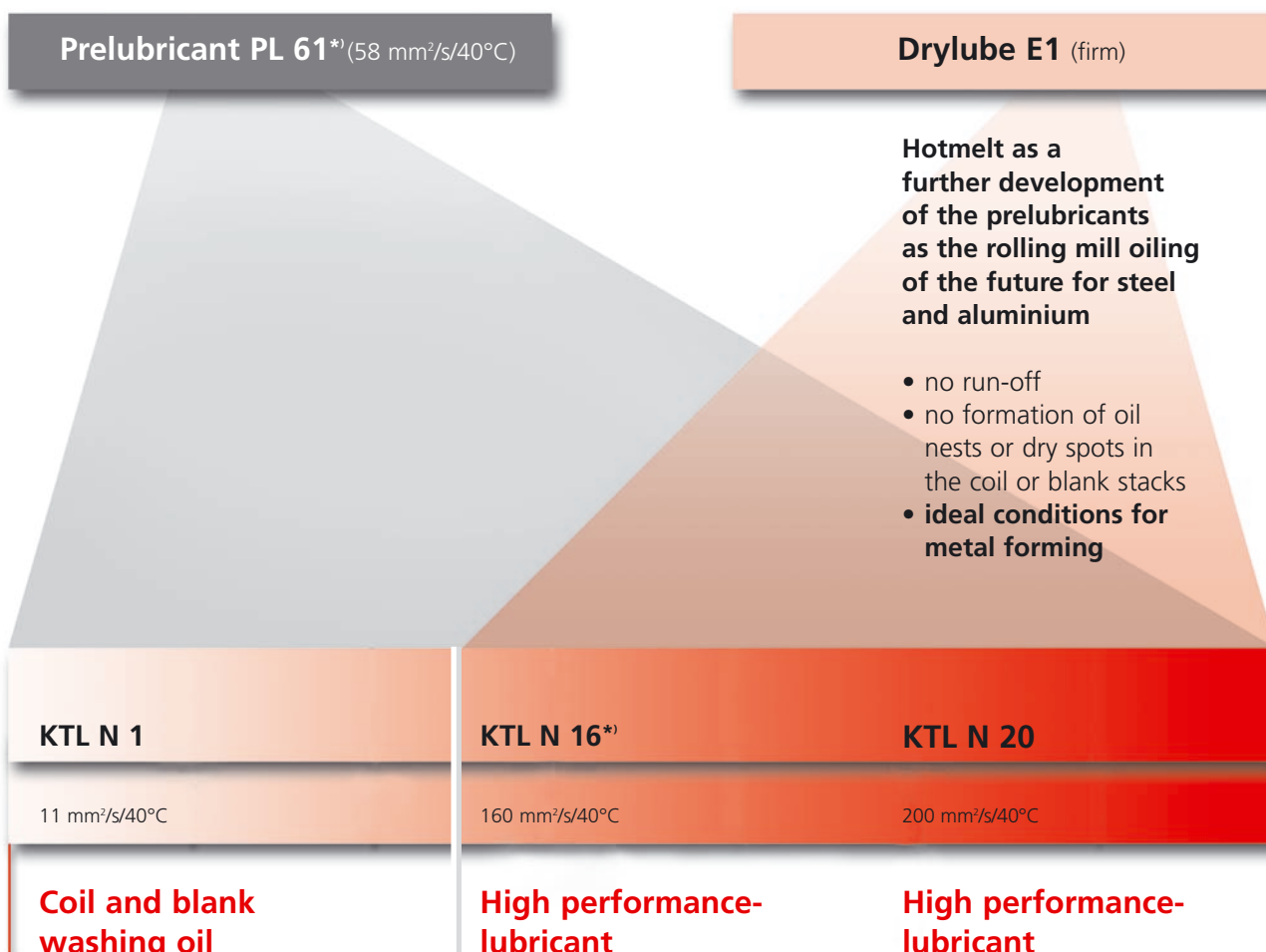
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# MULTIDRAW-Family for low lubricant sheet metal forming

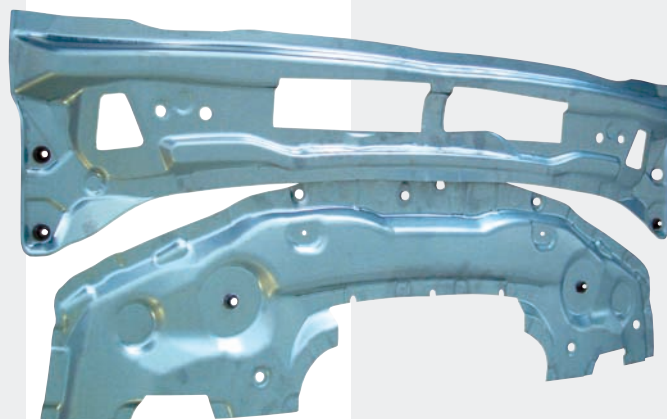


<sup>\*)</sup> approved by the VDA Committee for coil lubrication



# Rolling mill lubrication for sheet metals

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Description	Application
<b>MULTICOR LF 65</b>	25	●	●	Solvent free <b>corrosion protection oil</b> , compatible with cataphoretic dip painting (CDP), run-off impeded	Conservation of coated and non-coated steel qualities
<b>MULTIDRAW PL 61</b>	58	●	●	Thixotrope <b>prelubricant</b> , high corrosion prevention, good forming qualities  <b>approved by the VDA Committee for coil lubrication</b>	Excellently suitable for forming of steel and galvanised steels, especially in the automotive industry
<b>MULTIDRAW DRYLUBE E 1</b>	firm	●	●	Waterless <b>hotmelt</b> , excellent forming characteristics, high protection against corrosion, firm at room temperature, completely liquid above 45°C  <b>approved by the VDA Committee for coil lubrication</b>	Excellently suitable for forming steel, high strength steels and aluminium, especially in the automotive industry



● suitable    ◐ partly suitable    ○ not suitable

# Forming oils for steel

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW KTL N 1</b>	11	●	●	●	◐	Mineral oil based <b>coil- and blank washing oil</b> with forming characteristics, compatible with CDP and glues, high corrosion protection, no degreasing before the bodysell work	Washing and drawing oils for sensitive thin sheet surfaces (e.g. outer skin parts in the automotive industry)
<b>MULTIDRAW KTL N 7</b>	73	●	●	○	◐	Mineral oil based <b>high performance drawing oils</b> , high corrosion protection, thixotrope, compatible with CDP and glues, no degreasing before the bodysell work <b>MULTIDRAW KTL N 16 is approved by the VDA Committee for coil lubrication</b>	Forming oils for high requirements on the drawing performance, especially in the automotive industry for inner and outer skin parts, for fenders, doors etc.
<b>MULTIDRAW KTL N 16</b>	160	●	●	○	◐		Further viscosities are available depending on application.
<b>MULTIDRAW KTL N 30</b>	310	●	●	○	◐		
<b>MULTIDRAW KTL N 60</b>	580	●	●	●	◐		
<b>MULTIDRAW KTL N 20</b>	200	●	●	○	◐	<b>MULTIDRAW KTL N 20</b> with increased lubrication performance for high strength steels and aluminium	Forming oil for highest requirements on the drawing performance
<b>MULTIDRAW ALS 8</b>	78	●	●	○	●	Fully synthetic <b>high-performance drawing oils</b> , compatible with CDP, extremely high adhesion, especially easily degreaseable, very good lubricating performance, welding possible without degreasing	Drawing oils for the highest degrees of forming, also suitable for galvanised qualities, e.g. for car body parts of commercial vehicles
<b>MULTIDRAW ALS 17</b>	170	●	●	○	●		
<b>MULTIDRAW ALS 40</b>	420	●	●	○	●		
<b>MULTIDRAW ALS 80</b>	830	●	●	○	●		

● suitable   ◐ partly suitable   ○ not suitable

# Forming oils for steel

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW K 16 B</b>	fluid	●	●	●	○	<b>Drawing greases</b> containing solid lubricants, good corrosion prevention	Drawing greases for the highest demands, for sheet strengths from 1-6 mm, e.g. axle parts for utility vehicles
<b>MULTIDRAW 712 BV</b>	paste	●	●	○	○		
<b>MULTIDRAW 511</b>	66	●	●	●	◐	<b>Metal working oil</b> , low in oil mist, high corrosion protection	Drawing and blanking oil for universal application, e.g. for small parts

# Forming oils for aluminium

<b>MULTIDRAW ALG 8</b>	83	◐	●	●	◐	Fully synthetic <b>drawing oils</b> , compatible with cathaphoretic dip-painting, welding possible without degreasing, corresponds to the food and consumer goods act	Forming with high requirements on the drawing performance, e.g. car body parts, aluminium pans, copper amplifier parts
<b>MULTIDRAW ALG 17</b>	170	◐	●	●	◐		
<b>MULTIDRAW ALG 40</b>	370	◐	●	●	◐		
<b>MULTIDRAW ALG 80</b>	820	◐	●	●	◐		
<b>MULTIDRAW ALF 4</b>	4	○	●			<b>Metal working oil</b> , prevents abrasion on the cutting surfaces, good forming characteristics	Aluminium shearing, e.g. parts for car bodies, greasing the cutting blade
<b>MULTIDRAW ALF 15</b>	11	◐	●	●	◐	Partly synthetic <b>coil- and blank washing oils</b> , specially for aluminium, compatible with CDP and glues, no degreasing before the bodysell work	Washing and drawing oils for easy to medium formings, e.g. for outer skin parts in the automotive industry

● suitable   ◐ partly suitable   ○ not suitable



# Volatile oils for all metals

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW 65</b>	<1,0	●	●	●	◐	Fully <b>volatile oils</b> , flash point> 55° C	For blanking and drawing thin sheets
<b>MULTIDRAW 73</b>	<1,0	●	●	●	◐		
<b>MULTIDRAW AL 3</b>	1,4	●	●	●	◐	<b>Volatile oils</b> low in residue, the volatile pro- portion decreases as the viscosity increases, flash point > 55° C, MULTI- DRAW AL 2094 and AL 9635 correspond to the food and commercial goods act, MULTIDRAW KTL N 16 LM fulfills the requirements of the VDA specification sheet	For blanking and draw- ing of easy drawing processes, e.g. blanking of perforated sheets, forming of aluminium door rosettes
<b>MULTIDRAW AL 6</b>	1,6	●	●	●	◐		
<b>MULTIDRAW AL 10</b>	1,8	●	●	●	◐		
<b>MULTIDRAW AL 25</b>	2,0	●	●	●	◐		
<b>MULTIDRAW AL 25 EP</b>	2,0	●	●	●	◐		
<b>MULTIDRAW FE 10</b>	1,8	●	●	●	◐		
<b>MULTIDRAW KTL N 16 LM</b>	4,7	●	●	○	◐		



● suitable    ◐ partly suitable    ○ not suitable

# Forming oils for stainless steel

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW CF 1</b>	12	●	●	◐	●	High alloyed <b>forming oils</b> , free of pigments and chloride	Deep drawing and ironing of cold and warm belt for thick sheet strengths, e.g. of rolling bearings, trueing of stainless steel rails for shock absorber housings, dishwasher parts etc.
<b>MULTIDRAW CF 4</b>	41	●	●	◐	●		
<b>MULTIDRAW CF 12</b>	120	●	●	◐	●		
<b>MULTIDRAW CF 19</b>	200	●	●	◐	●		
<b>MULTIDRAW CF 30</b>	310	●	●	◐	●		
<b>MULTIDRAW CF 43</b>	430	●	●	◐	●		
<b>MULTIDRAW CF 7 Extra</b>	66	●	●	○	●	As CF range but with higher characteristics for protection against wear, for higher requirements on the drawing performance	e.g. for deep drawing of bath tubs, steel wheel rims, saucepans
<b>MULTIDRAW CF 12 Extra</b>	130	●	●	○	●		

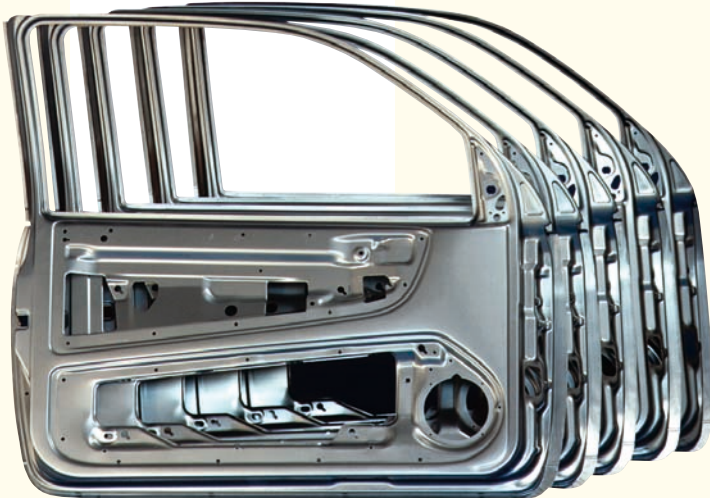


● suitable    ◐ partly suitable    ○ not suitable



# Forming oils for stainless steel

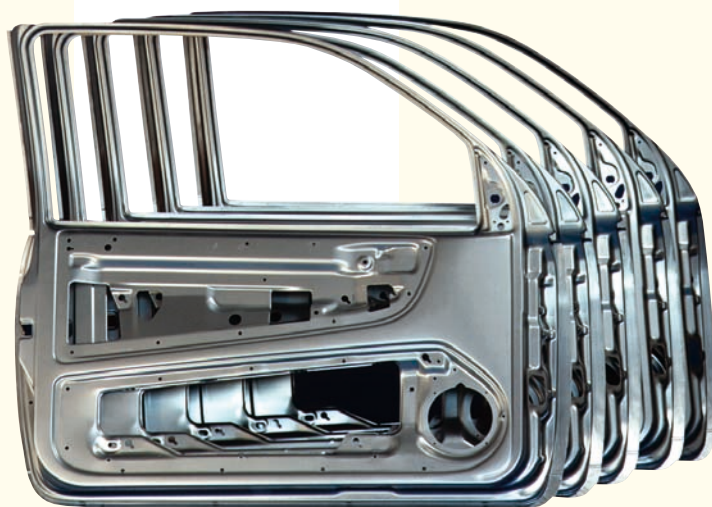
Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
MULTICUT STAMP 60	60	●	●	○	●	High alloyed <b>blanking and precision blanking oils</b> from the MULTICUT- Program, MULTICUT STAMP E 80 is free from mineral oil	For working high alloyed steels with greater ma- terial thicknesses and difficult part geometries, e.g. for production of pans, kitchen appliances
MULTICUT STAMP E 80	83	●	●	○	●		
MULTICUT STAMP 130	130	●	●	○	●		
Products containing chlorine							
MULTIDRAW 659	130	●	●	●	●	High alloyed <b>drawing oils</b> containing chlorine	For maximum demands and the most difficult forming processes, e.g. stainless steel small parts such as battery sleeves, spoked rims for steering wheels made from Nirosta steel
MULTIDRAW 472	370	●	●	◐	●		



● suitable

◐ partly suitable

○ not suitable



● suitable    ◐ partly suitable    ○ not suitable

# Water miscible forming lubricants

Type	Viscosity mm <sup>2</sup> /s/40°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW 859</b>	110	●	●	○	●	Water miscible <b>drawing oil concentrates</b> , low in residue, high cooling effect, easily degreasable, compatible with CDP	For deep drawing of body work parts for forming processes of medium difficulty, can also be used as a washing emulsion on coil and blank washing installations, as well as for chamfering and cutting deep drawn parts
<b>MULTIDRAW SR</b>	110	●	●	○	◐		
<b>MULTIDRAW SR Extra</b>	140	●	●	○	◐		
<b>MULTIDRAW Washlube M</b>	160	●	●	●	●		
<b>MULTIDRAW KTL WV 20</b>	fluid	●	●	○	●	Hydrous <b>drawing grease</b> , free from pigments, high cooling effect, compatible with CDP	For deep drawing body work parts
<b>MULTIDRAW Stainless WM</b>	fluid	●	●	●	●	<b>Drawing grease</b> and solid lubricant, high corrosion protection, good cooling effect	For deep drawing and ironing of body work parts with thick sheet strengths and high degree of forming or stainless steel for producing stainless steel parts such as mufflers
<b>DIVINOL Spülfluid</b>	7	●	●	●	●		Washing oil for coil/blank stacks washers, used alternately for water-miscible as well as oily products

● suitable   ◐ partly suitable   ○ not suitable



# Pressure mediums for hydroforming

Type	Viscosity mm <sup>2</sup> /s/20°C	Steel	Aluminium	Non-ferrous heavy metal	Stainless steel	Description	Areas of application
<b>MULTIDRAW Hydrofluid THS</b>	15	●	● *)	●	●	Fully synthetic, water-miscible <b>hydroforming medium</b> , excellent demulsifying capacity, extremely fine filterability *) suitable for aluminium only with addition of AL-Inhibitor	Hydroforming medium, we recommend our CF range and ALG range for external lubrication



● suitable    ◐ partly suitable    ○ not suitable



## PROGRAM

### Industrial lubricants

MULTICAL®	calibration lubricants
MULTICOR®	anti-corrosion agents
MULTICUT®	non water-miscible cooling lubricants
MULTIDRAW®	wire drawing lubricants
MULTIDRAW®	deep drawing lubricants
MULTIPRESS®	extrusion oils
TEXTOL®	lubricants for the textile industry
ZUBORA®	water-miscible cooling lubricants
DIVINOL®	lubricating greases
DIVINOL®	guideway and slideway oils, hardening oils, adhesive oils, hydraulic oils, industrial gear oils, commercial white oils, compressor oils, cylinder oils

**You can find our products in over 100 countries world-wide .**



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