

| Product | Steel up to approx. [mm] | NF metal up to approx. [mm] | Aluminium up to approx. [mm] | Alloy steel up to approx. [mm] | Performance |
|-------------|--------------------------|-----------------------------|---------------------------------|--------------------------------|-------------|
| CLF 11 L | 0,15 | 0,30 | 0,30 | - | • |
| CLF 11 | 0,15 | 0,30 | 0,30 | _ | • • |
| CLF 11 W 10 | 0,20 | 0,40 | 0,40 | 0,10 | • • |
| CLF 11 SE | 0,20 | 0,30 | 0,40 | 0,15 | ••• |
| CLF 11 S | 0,30 | 0,50 | 0,50 | 0,20 | • • • • |
| CLF 11 SF | 0,50 | 0,80 | 0,80 | 0,30 | ••• |
| CLF 11 W 25 | 0,60 | 1,00 | 1,00 | 0,40 | • • • • |
| CLF 11 SB | 0,80 | 1,50 | 1,50 | 0,50 | •••• |
| CLF 11 SD | 1,50 | 2,00 | 2,00 | 0,90 | ••••• |
| CLF 11 SG | 3,50 | 5,00 | 3,50 | 2,00 | ••••• |
| CLF 11 TE | 3,50 | 5,00 | 3,50 | 2,00 | ••••• |

Residue behaviour

Low < < > > High

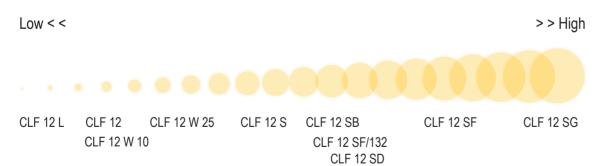
CLF 11 L CLF 11 CLF 11 W 25 CLF 11 S CLF 11 SB CLF 11 SF CLF 11 SG

CLF 11 W 10 CLF 11 SE CLF 11 SD CLF 11 TE



| Product | Steel up to approx. [mm] | NF metal up to approx. [mm] | Aluminium up to approx. [mm] | Alloy steel up to approx. [mm] | Performance |
|----------------|--------------------------|-----------------------------|------------------------------|--------------------------------|-------------|
| CLF 12 L | 0,20 | 0,35 | 0,35 | _ | • |
| CLF 12 | 0,20 | 0,35 | 0,35 | _ | • • |
| CLF 12 W 10 | 0,25 | 0,45 | 0,45 | 0,15 | • • |
| CLF 12 S | 0,35 | 0,60 | 0,55 | 0,25 | ••• |
| CLF 12 SFL/132 | 0,45 | 0,70 | 0,65 | 0,25 | • • • • |
| CLF 12 SF | 0,60 | 0,90 | 0,90 | 0,35 | • • • • |
| CLF 12 W 25 | 0,70 | 1,10 | 1,10 | 0,50 | •••• |
| CLF 12 SB | 0,90 | 1,75 | 1,75 | 0,60 | •••• |
| CLF 12 SD | 1,50 | 2,00 | 2,00 | 0,90 | ••••• |
| CLF 12 SG | 4,00 | 6,00 | 4,00 | 2,50 | ••••• |

Residue behaviour







| Product | Steel up to approx. [mm] | NF metal up to approx. [mm] | Aluminium up to approx. [mm] | Application | Performance |
|------------|--------------------------|-----------------------------|---------------------------------|-----------------------------|-------------|
| CLF 1 L | 0,15 | 0,30 | 0,30 | Stamping, light forming | • |
| CLF 1 | 0,15 | 0,30 | 0,30 | Stamping, light forming | • • |
| CLF 1 W 10 | 0,25 | 0,40 | 0,40 | Profiling, drawing, bending | • • • |
| CLF 1 W 25 | 0,35 | 0,50 | 0,50 | Profiling, drawing, bending | •••• |

Performance overview



| Product | Steel up to approx. [mm] | NF metal up to approx. [mm] | Aluminium up to approx. [mm] | Alloy steel up to approx. [mm] |
|-----------|-----------------------------|-----------------------------|------------------------------|-----------------------------------|
| CLF 25 | 0,15 | 0,30 | 0,30 | - |
| CLF 25 SE | 0,25 | 0,40 | 0,40 | 0,15 |
| CLF 25 S | 0,30 | 0,50 | 0,50 | 0,20 |
| CLF 25 E | 0,60 | 0,80 | 0,80 | 0,30 |
| CLF 25 OP | 3,50 | 5,00 | 5,00 | 2,00 |

(special lubricants for electrical contact production)

Residue behaviour

Low < < > > High

CLF 25 CLF 25 SE CLF 25 S CLF 25 OP



| Product | Use | Application |
|------------------|-------------------------------------|---|
| Fluid 4610 | Stamping, bending (thin sheet) | Including steel, galvanised steel, aluminium |
| Fluid 4620 | Stamping, bending (thin sheet) | Including steel, galvanised steel, aluminium |
| Fluid 4630 | Stamping, bending (thin sheet) | Including steel, galvanised steel, aluminium |
| Fluid 3246 PWF | Stamping, bending, drawing, cutting | Including steel, stainless steel, galvanised steel, aluminium |
| Fluid 3350 PWF | Stamping, bending, drawing, cutting | Including steel, stainless steel, galvanised steel, aluminium |
| Fluid 3934 PFCHD | Paste for pipe processing | Including steel, stainless steel, galvanised steel, aluminium |
| Fluid 4039 THD | Stamping, bending (thin sheet) | Including steel, galvanised steel, aluminium |



 Fluid 4620
 Fluid 3246 PWF
 Fluid 3350 PWF
 Fluid 3630 PWHV

 Fluid 3242 PWF
 Fluid 3432 PFW
 Fluid 3934 PFCHD

 Fluid 4039 THD
 Fluid 4039 THD



| Series | Raziol Drylub types | Characteristics | Film strength | Utilisation as |
|-----------|------------------------------|--|---------------|--|
| Series 03 | Raziol Drylub WA 03 T | polymer wash dispersion with solid lubricant | High | Forming lubricant |
| Series 40 | Raziol Drylub WA 40 TK | polymer wash dispersion with solid lubricant | Medium | Forming lubricant |
| Series 21 | Raziol Drylub D CLF 21 TE | polymer wash dispersion with solid lubricant | Low | Forming lubricant for high performance requirements |
| Series 21 | Raziol Drylub ECLF 21 TE | polymer wash dispersion with solid lubricant | Extremely low | Dispersion / emulsion for minimum to moderate performance requirements |

Film strength

WA 03 T

High < < >> Low



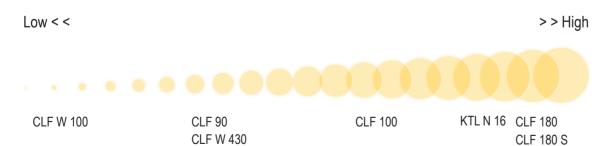
WA 40 TK

DCLF 21 TE

ECLF 21 TE

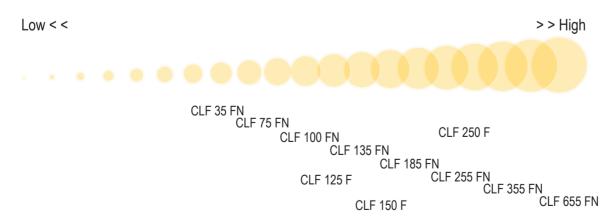


| Product | Colour | Viscosity at 40 °C [mm²/s] | Application | Performanc |
|-----------|---------------|-------------------------------|--|------------|
| CLF 90 | Amber | 90 | Stainless steel, Steel, Aluminium, NF metaltal | • • • |
| CLF 100 | Amber | 100 | Stainless steel, Steel, Aluminium, NF metaltal | • • • • |
| KTL N 16 | Amber | 160 | Steel, Aluminium, NF metal | • • • |
| CLF 180 | Amber | 180 | Stainless steel, Steel, Aluminium, NF metaltal | •••• |
| CLF 180 S | Amber | 180 | Stainless steel, Steel, Aluminium, | •••• |
| CLF W 100 | Amber, opaque | 100 | Steel, Aluminium, NF metal | • • |
| CLF W 430 | Amber, opaque | 430 | Steel, Aluminium, NF metal | • • • |
| CLF 100 V | Amber | 100 | Steel, Aluminium, NF metal | • • • • |





| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|------------|----------|----------------------------|-----------------------------------|
| CLF 35 FN | Greenish | 35 | Stainless steel, steel, aluminium |
| CLF 75 FN | Greenish | 75 | Stainless steel, steel, aluminium |
| CLF 100 FN | Greenish | 100 | Stainless steel, steel, aluminium |
| CLF 135 FN | Greenish | 135 | Stainless steel, steel, aluminium |
| CLF 185 FN | Greenish | 185 | Stainless steel, steel, aluminium |
| CLF 255 FN | Greenish | 255 | Stainless steel, steel, aluminium |
| CLF 355 FN | Greenish | 355 | Stainless steel, steel, aluminium |
| CLF 655 FN | Greenish | 655 | Stainless steel, steel, aluminium |
| CLF 125 F | Amber | 125 | Stainless steel, steel, aluminium |
| CLF 150 F | Amber | 150 | Stainless steel, steel, aluminium |
| CLF 250 F | Amber | 255 | Stainless steel, steel, aluminium |







High-performance forming oils

| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|-----------|--------|----------------------------|-----------------------------------|
| CLF-65 E | Amber | 65 | Stainless steel, steel, aluminium |
| CLF-100 E | Amber | 100 | Stainless steel, steel, aluminium |
| CLF-150 E | Amber | 150 | Stainless steel, steel, aluminium |
| CLF-200 E | Amber | 200 | Stainless steel, steel, aluminium |
| CLF-260 E | Amber | 260 | Stainless steel, steel, aluminium |
| CLF-400 E | Amber | 400 | Stainless steel, steel, aluminium |
| CLF-700 E | Amber | 690 | Stainless steel, steel, aluminium |

Performance overview

Low << > > High

CLF-65 E CLF-100 E CLF-150 E CLF-200 E CLF-260 E CLF-400 E CLF-700 E





Cutting oils

| Product | Colour | Viscosity at 40 °C [mm²/s] | Application | Performance |
|-----------|--------|-------------------------------|-----------------------------------|-------------|
| CLF 19 B | Amber | ≥ 21 | Stainless steel, steel, NF metals | • • • • |
| CLF 18 HL | Amber | ≥ 21 | Stainless steel, steel | •••• |



| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|------------|--------|-------------------------------|--|
| BZK II | Amber | ca. 50 | Galvanised sheet metal; excellent protection against white rust; deep drawing and profile rolling; Mix ratio with water: 10 to 30 % |
| BZK ST | Amber | ca. 46 | Steel; excellent corrosion protection; deep drawing and profile rolling; mix ratio with water: 5 to 30 % |
| ECLF 100 N | Amber | 70 | Steel, aluminium, rustproof sheet metal; large-scale deep drawing parts; stamping and bending operations; Mix ratio with water: 5 to 20 % |
| D ECLF | Yellow | 100 | Steel, non-ferrous metals, aluminium; ester-based synthetic special lubricant; also suitable for chipping; Mix ratio with water: 5 to 10 % |



| Product | Colour | Viscosity at 40 °C [mm²/s] | Application | Performance |
|----------|--------------|-------------------------------|-----------------------------------|-------------|
| D CLF | Yellow | 47 | Steel, aluminium, NF metals | • • |
| D CLF 21 | Light yellow | 25 | Steel, aluminium, NF metals | • • • |
| D CLF 30 | Amber | 30 | Stainless steel, steel, aluminium | • • • • |
| D CLF 40 | Amber | 40 | Stainless steel, steel, aluminium | •••• |





Chlorine substitute product

| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|-----------|--------|----------------------------|-----------------------------------|
| CEP 2 E | Amber | 2 | Stainless steel, steel, aluminium |
| CEP 4 E | Amber | 4 | Stainless steel, steel, aluminium |
| CEP 30 E | Amber | 30 | Stainless steel, steel, aluminium |
| CEP 60 E | Amber | 60 | Stainless steel, steel, aluminium |
| CEP 120 E | Amber | 120 | Stainless steel, steel, aluminium |
| CEP 250 E | Amber | 250 | Stainless steel, steel, aluminium |

Performance overview

Low < < >> Low

OFFICE

CEP 2 E CEP 4 E

CEP 30 E CEP 60 E CEP 120 E CEP 250 E



Chlorine substitute product

| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|-----------|---------------|----------------------------|-----------------------------------|
| CEP-FS 3 | Reddish brown | 38 | Stainless steel, steel, aluminium |
| CEP-FS 5 | Reddish brown | 69 | Stainless steel, steel, aluminium |
| CEP-95 | Reddish brown | 105 | Stainless steel, steel, aluminium |
| CEP-AL | Reddish brown | 130 | Stainless steel, steel, aluminium |
| CEP-180 | Reddish brown | 180 | Stainless steel, steel, aluminium |
| CEP 250 E | Reddish brown | 250 | Stainless steel, steel, aluminium |
| CEP-ALV | Reddish brown | 360 | Stainless steel, steel, aluminium |
| CEP-680 | Reddish brown | 680 | Stainless steel, steel, aluminium |

Performance overview

Low < < > > High





| Product | Colour | Viscosity at 40 °C [mm²/s] | Application |
|-------------|--------|-------------------------------|--|
| IHU 340 Mg | Yellow | 340 | Base synthetic ester; This product was specially developed for the machining of magnesium components; More temperature-stable than conventional mineral oil-based IHU lubricants |
| IHU 1000 Mg | Yellow | 1000 | Base synthetic ester; This product was specially developed for the machining of magnesium components; More temperature-stable than conventional mineral oil-based IHU lubricants |



| Product | Colour | Viscosity at 40 °C [mm²/s] | Application | Performance |
|----------|--------|-------------------------------|---|-------------|
| FS 3 | Red | ca. 40 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | ••• |
| FS 3 S | Yellow | ca. 40 | Stainless steel, Steel, Aluminium, NF metals Stamping and Fineblanking (including electri- cal contacts), Forming | ••• |
| FS 5 | Red | 63 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | • • • |
| AL | Brown | 130 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | ••• |
| ZO | Brown | 125 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | ••• |
| ALV | Brown | 300 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | •••• |
| WKZ 2000 | Green | 125 | Stainless steel, Steel, Aluminium, NF metals Stamping, Fineblanking, Forming | ••• |





| Product | Colour | Viscosity at 40 °C [mm²/s] | Application | Performance |
|---------|--------|-------------------------------|---|-------------|
| SZ 11 | Yellow | - | Stainless steel, Steel, Aluminium, NF metal, Stamping, Fineblanking, Forming | •••• |
| SZ 1 | Yellow | - | Stainless steel, Steel, Aluminium, NF metal, Stamping, Fineblanking, Forming | •••• |

Residue behaviour

