



## HD Series Cutting Oils

Dyna-Plex 21C® HD Series Cutting Oils are active, heavy-duty oils formulated for difficult machining operations on tough grades of steel. All products in the series contain active sulfur and will stain copper, brass, and aluminum alloys. Dyna-Plex 21C HD Series oils contain unique combinations of lubricity and anti-weld additives ensuring excellent tool life, superior surface finish, and consistent production quality. Each fluid is formulated with effective anti-mist agents to reduce oil mist during high-speed machining operations. Dyna-Plex 21C HD Series oils resist foaming, even in high-pressure and high-velocity applications.

HD 1300 is formulated for difficult operations on low-machinability alloy and stainless steels.

HD 1320 is an enhanced version of HD 1300 recommended for use with exceptionally difficult grades of specialty stainless steels and exotic metals. It can also be used as spike oil to boost additive levels where long service life and contaminant dilution have adversely impacted cutting oil performance.

HD 1100 is a moderate-duty formula recommended for exceptional machining performance on carbon and alloy steels. It is particularly well suited for gear hobbing and gear shaping applications.

HD 1000 is a 15 cSt, moderate-duty machining and grinding oil used primarily for grinding, gear grinding, gun drilling, and deep-hole drilling. It contains a highly-effective anti-foam package to prevent air entrapment in high-velocity and high-pressure oil delivery systems.

HD 700 is a 10 cSt version for applications where grinder OEMs prefer lighter-viscosity oils.

<u>PROPERTY</u>	<u>ASTM TEST METHOD</u>	<u>HD 1320</u>	<u>HD 1300</u>	<u>HD 1100</u>	<u>HD 1000</u>	<u>HD 700</u>
Viscosity @ 40°C (cSt)	D-445	39	34	32	15	10
Color	Visual	Dark Amber	Dark Amber	Amber	Amber	Amber
Flash Point, °F	D-92	400°F	398°F	390°F	370°F	350°F
Sulfur	D-129	Present	Present	Present	Present	Present
Chlorine*	D-4327	Present	Present	Present	Present	None
Lubricity Additives	IR	Present	Present	Present	Present	Present
Copper Strip Corrosion	D-130	4c	4c	4b	4b	4b

\*All vLCCP, C21+