

CUTTING AND GRINDING OILS

Cutting and Grinding Oils Products Summary

Product	Product Type	Type of Metal	Machining Applications	Operating Concentration	Performance Additives	Performance Features
ROYAL 13	Blended Oil	Ferrous	Broaching/ Heavy Duty Machining	As Received	Non-Chlorinated Sulfur and Lubrication Additives	Broaching High-speed cut off and sawing operations
ROYAL 20 (Minimum Quantity Lube)	Blended Oil	Ferrous and Non-Ferrous*	Tube Cutting and General Machining	As Received	Non-Chlorinated Sulfur and Lubrication Additives	High-speed cut off and sawing operations
ROYAL 25	Vegetable Oil Based	Ferrous and Non-Ferrous*	Heavy Duty	As Received	Non-Chlorinated Lubrication Additives	Good Tool Life Good Part Finish
ROYAL 40 (Minimum Quantity Lube)	Blended Oil	Ferrous and Non-Ferrous*	Tube Cutting and General Machining	As Received	Non-Chlorinated Sulfur and Lubrication Additives	Heavy Duty High-speed cut off and sawing operations
ROYAL 53	Sulfur Additive	Ferrous	Cutting/Grinding Oil Additive	As Required	Used to increase EP characteristics	Concentrated sulfur additive
ROYAL 54	Chlorine Additive	Ferrous	Cutting/Grinding Oil Additive	As Required	Used to increase EP characteristics	Concentrated chlorine additive
ROYAL 62 (Minimum Quantity Lube)	Blended Oil	Ferrous and Non-Ferrous*	Heavy Duty	As Received	Non-Chlorinated Lubrication Additives	Heavy Duty High-speed cut off and sawing operations
ROYAL 66R	Blended Oil	Ferrous	Gear Cutting Hobbing	As Received	Sulfur, Non-Chlorinated Lubrication Additives	Full Range from Light to Heavy Duty machining operations
ROYAL 74	Blended Oil	Ferrous	Heavy Duty Machining/ Broaching	As Received	EP Additives Lubrication Additives	Heavy Duty machining oil for tough alloys
ROYAL 4700	Mineral Oil	Ferrous and Non-Ferrous*	Honing & Light Grinding	As Received	Fatty Oil and Phosphorus No Sulfur or Chlorine	Good tool life Good part finish Good metal wetting

* Non-ferrous metals do not include magnesium and other highly active metals.

NOTE: These products may be used following an alkaline pre-cleaning stage. They can also be used in conjunction with NCOC Surf-Aid detergent additives to clean and phosphate in a single stage. Consult your NCOC representative for Surf-Aid selection recommendations.