



Table 130-5
 Characteristics of Sparks Generated by the Grinding Metals

Metal	Volume of Stream	Relative Length of Stream, mm (in.)†	Color of Stream Close to Wheel	Color of Streaks Near End of Stream	Quantity of Spurts	Nature of Spurts
1. Wrought iron	Large	1651 (65)	Straw	White	Very few	Forked
2. Machine steel (AISI 1020)	Large	1778 (70)	White	White	Few	Forked
3. Carbon tool steel	Moderately large	1397 (55)	White	White	Very many	Fine, repeating
4. Gray cast iron	Small	635 (25)	Red	Straw	Many	Fine, repeating
5. White cast iron	Very small	508 (20)	Red	Straw	Few	Fine, repeating
6. Annealed malleable iron	Moderate	762 (30)	Red	Straw	Many	Fine, repeating
7. High-speed steel (18-4-1)	Small	1524 (60)	Red	Straw	Extremely few	Forked
8. Austenitic manganese steel	Moderately large	1143 (45)	White	White	Many	Fine, repeating
9. Stainless steel (Type 410)	Moderate	1270 (50)	Straw	White	Moderate	Forked
10. Tungsten-chromium die steel	Small	889 (35)	Red	Straw*	Many	Fine repeating*
11. Nitrided Nitralloy	Large (curved)	1397 (55)	White	White	Moderate	Forked
12. Stellite	Very small	254 (10)	Orange	Orange	None	
13. Cemented tungsten-carbide	Extremely small	51 (2)	Light Orange	Light Orange	None	
14. Nickel	Very small**	254 (10)	Orange	Orange	None	
15. Copper, brass, aluminum	None				None	

†Figures obtained with 305 mm (12") wheel on bench stand are relative only. Actual length in each instance will vary with grinding wheel, pressure, etc. *Blue-white spurts. **Some wavy streaks.