

Cleavage. *a*, *o* both very imperfect. Fracture conchoidal. Opaque. Lustre metallic. Iron-black. Streak dark brown. Brittle. $H = 6.0 \dots 6.5$. $G = 5.07 \dots 5.13$. Slightly magnetic, without sensible polarity.

Infusible before the blowpipe. With soda on charcoal in the inner flame yields a sublimate of oxide of zinc. In the outer flame imparts a purple colour to glass of borax. Completely soluble in warm hydrochloric acid, forming a yellowish-green solution.

$\bar{R}\bar{R}$, where \bar{r} is protoxide of iron \bar{r}_e , protoxide of manganese \bar{m}_n and oxide of zinc \bar{z}_n , and \bar{R} is red oxide of iron \bar{r}_e and oxide of manganese \bar{m}_n .

Analyses of Franklinite by Berthier and Abich:—

Red oxide of iron	66.0	68.88
Oxide of manganese	16.0	18.17
Oxide of zinc	17.0	10.81
Alumina	—	0.73
Silica	—	0.40

In imbedded crystals, angular or rounded grains, and granular masses.

Is found in crystals imbedded in spartalite, and in rounded grains imbedded in calcite, at Franklin and Sterling in New Jersey, with calamine and smithsonite at Altenberg near Aix la Chapelle.

136. MAGNETITE.—Magnetic iron ore; Phillips. Fer oxidulé; Hauy. Oktaedrisches Eisen-Erz; Mohs. Magnet-eisenstein; Hausmann. Magnetit; Haidinger.

Cubic.

a 100, *d* 011, *o* 111, *e* 210, *p* 122, *m* 311, *s* 321,
y 1011, *z* 1611.

<i>aa'</i>	90° 0'	<i>mo</i>	29° 30'
<i>dd'</i>	60 0	<i>sa</i>	36 42
<i>da'</i>	45 0	<i>sa'</i>	54 41
<i>oo'</i>	70 32	<i>sa''</i>	74 30
<i>oa</i>	54 44	<i>so</i>	22 13
<i>ea</i>	26 34	<i>sd''</i>	19 6
<i>pa</i>	70 32	<i>ya</i>	8 3
<i>pa'</i>	48 11	<i>yo</i>	46 41
<i>pd</i>	19 28	<i>za</i>	5 3
<i>ma</i>	25 14	<i>zo</i>	49 41

FIG. 284.

