

Grade TG-411 Typical Properties ¹

GRAFOIL TG-411 is a high temperature purified flexible graphite sheet for applications that require extremely low impurity levels. Material greater than 0.040" (1 mm) thick is adhesively bonded to final thickness, followed by the purification process.

CHARACTERISTIC	TYPICAL PROPERTY
Thickness	0.010" to 0.030" (0.25 mm to 0.76) Available <i>Non-standard thicknesses may be available upon request.</i>
Width	Up to 40" (1,016 mm) Available <i>Non-standard widths may be available upon request.</i>
Length	Varies as a function of thickness
Bulk Density	70 lb/ft ³ (1.12 g/cc) Available <i>Non-standard densities may be available upon request.</i>
Chlorine (Cl)	<0.5 ppm Typical
Calcium (Ca)	<1 ppm Typical
Sulfur (S)	2 ppm Typical
Sodium (Na)	2 ppm Typical
Aluminum (Al)	1 ppm Typical
Phosphorous (P)	1.5 ppm Typical
Iron (Fe)	3 ppm Typical
Zinc (Zn)	<0.05 ppm Typical
Potassium (K)	1 ppm Typical
Magnesium (Mg)	1 ppm Typical
Cobalt	<0.05 ppm Typical
Chromium (Cr)	<0.1 ppm Typical
Boron (B)	0.07 ppm Typical
Copper (Cu)	<0.05 ppm Typical
Nickel (Ni)	0.3 ppm Typical
Arsenic (As)	<0.01 ppm Typical
Silicon (Si)	5 ppm Typical
Manganese (Mn)	0.1 ppm Typical
Mercury (Hg)	<0.5 ppm Typical
Tantalum (Ta)	< 5 ppm Typical
Bromine (Br)	<0.1 ppm Typical
Selenium (Se)	<0.1 ppm Typical
Geranium (Ge)	<0.1 ppm Typical
Titanium (Ti)	0.1 ppm Typical
Lithium (Li)	0.1 ppm Typical
Total Impurities	<20 ppm Typical
Certification	Certify to Grade

¹Properties listed are typical and cannot be used as accept/reject specifications. Specifications are listed under Technical Bulletin 304.