

Functional Fillers

Austin Black® 325



Coatings, Plastics &
Polymers

YOUR BENEFITS

- ▶ Natural raw material
- ▶ Low specific gravity of 1.3
- ▶ No detectable PAH's
- ▶ Fast dispersion/mixing
- ▶ No moisture absorption



YOUR PARTNER FOR COATINGS, PLASTICS & POLYMERS



ABOUT COAL FILLERS INC.



For more than 30 years, the US company Coal Fillers Inc., a privately held company, milled a high quality, bituminous coal, creating its product Austin Black® 325, sold mainly into the rubber and plastics markets. CFI is 100% in control of every aspect of its business – from owning hauling trucks to processing material at two plants to packaging and to loading its material. Coal Fillers Inc. began milling coal in Tams, West Virginia and after five years of growth, expanded production to Bluefield, Virginia. Meanwhile Austin Black® 325 is delivered to all continents in the world in various packagings. With the fully-integrated packaging unit in their production facilities, Coal Fillers can offer even customer pre-weight bags for individual recipes. End of 2021 Coal Fillers Inc. has been renamed to CFI Carbon Products.



AUSTIN BLACK® 325 – DESCRIPTION

Produced by our partner CFI Carbon Products (USA), Austin Black® is one of the most interesting pigment and mineral fillers available. It has a specific gravity of 1.3. When compared to Carbon Black with a 1.8 specific gravity and other mineral fillers at 2.6 to 2.9 specific gravity, Austin Black® can significantly reduce compounds costs.

Austin Black® has a platy structure and a ph value of 7.0. Its chemical and ultraviolet resistance should enhance the properties of most rubber and plastic compounds. It will not absorb moisture and can improve air retention and moisture permeation properties in rubber compounds. These facts, plus excellent dielectric properties make Austin Black® ideal for compounds requiring good dielectric properties.

Chemical Name: Bituminous Coal

CAS No.: 308062-82-0

Specification			
Parameter	Values	Test	Method
Specific Gravity	1.31 ± 0.03	ASTM	D1817-01
Carbon, Content	77.00% typically	-	-
Volatiles	20.00% max.	ASTM	D3175
Moisture (Heat Loss)	1.00% max.	ASTM	D3302
Ash	7.50% max.	ASTM	D3174
Sulphur	0.90% max.	ASTM	D3177
pH	7.00	ASTM	D1521
Particle Size	99% through 325 Meshscreen	-	Screen analysis



AUSTIN BLACK® 325 – DESCRIPTION CONT.

Dispersability

Austin Black® readily disperses in natural rubber, synthetic rubbers, and plastics, which reduces mixing time without causing agglomeration or sacrificing the dispersion of other ingredients. The 17% to 20% volatile matter in Austin Black® contains inherent oils that act as an internal plasticizer and dispersing aid. It has been recommended that Austin Black® be one of the first ingredients added to the compound mix to fully utilize this unique property.

Attributes of Austin Black® in rubber

- Combining Austin Black® with HAF or FEF carbon blacks will produce better physical properties than thermal or SRF carbon blacks while significantly reducing compound costs
- Most rubber compounds can be diluted with 5 to 10 parts of Austin Black® without impairing the physical properties. This may reduce the compound cost by 3 to 4%.
- Austin Black® functions as a processing aid. It facilitates air release from compounds which reduces bubble and blister problems.
- Insulation compositions containing other standard fillers deteriorate in electrical properties following immersion in water. Compositions containing Austin Black® make it ideal for companies requiring good electrical properties.
- Addition of as little as 20 parts Austin Black® will eliminate the disagreeable odor of a Di Cup cure system.
- Austin Black® will help minimize migration in a rubber to metal bonded product, and will significantly reduce staining of rubber compositions.



AUSTIN BLACK® 325 – APPLICATIONS

Applications

Rubber	Tires, belts, hoses, gaskets and seals, commercial roofing, mechanical goods, caulks
Plastics	Polyolfin concentrates, PVC plastisols, masterbatches
Coatings	Adhesives, metal protective coatings, mold release agents, paints, stains, lacquers



Shoe soles with Austin Black® 325 as filler and for coloring

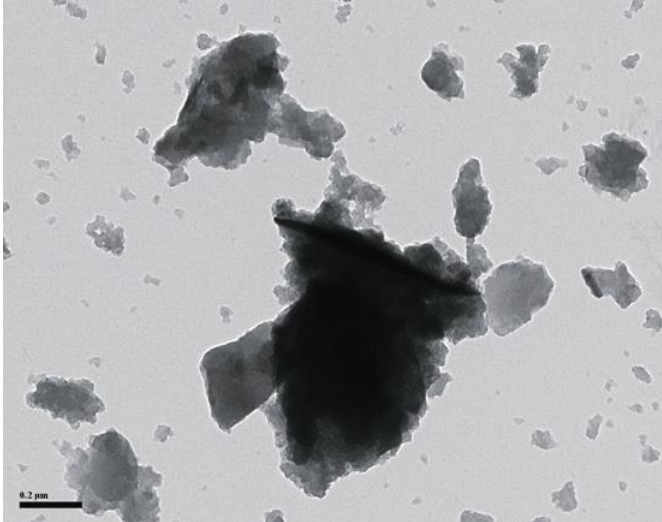


Economical filler for Plastic Masterbatches

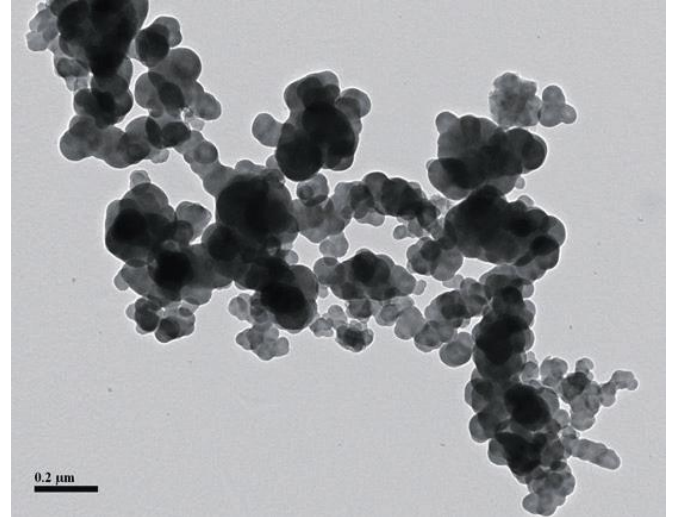


AUSTIN BLACK® 325 – STRUCTURE

One difference of Austin Black® 325 compared with regular Carbon Black is the structure. The Carbon Black particles are forming aggregates as you can see in the right picture, our Austin Black® 325 has a platy structure what's offering beside a good UV resistance a very good gas barrier in different formulations.



Austin Black® 325 Structure at 0.2 µm



Carbon Black N7xx Structure at 0.2 µm

Structure/Surface

Properties

Surface Area (BET) Nitrogen Testing

N2SA = Total Surface

STSA = External Surface

Iodine Absorption (g/kg)

Oil Absorption DBP

Tint Strenght (ASTM)

Typical Values

(M2GM)/approx.

8.97

-

31.4

42.7

11.4



AUSTIN BLACK® 325 – TESTS & STUDIES

Due to the different application possibilities and elastomers, we are providing our customers the best possible technical support in providing different studies and tests we have done with Austin Black® 325. Either as idea finder or as initial recipe formulation to start, we can offer you a complete handbook. Please feel free to request your personal version (see table on the right).

Tests

Section 1	Styrene/Butadiene Rubber
Section 2	Butyl and Chlorobutyl Rubber
Section 3	EPR and EPDM Compositions
Section 4	Natural Rubber Compositions
Section 5	Neoprene Compositions
Section 6	Nitrile Rubber
Section 7	Polyvinyl Chloride
Section 8	Reclaimed Rubber and Viton



AUSTIN BLACK® 325 – APPLICATION OVERVIEW

Products	Type of Polymer		Advantages of Austin Black®
Tires (all types)	Inner liner compound	Halobutyl and natural rubber	Used to replace some carbon black, polymer, and clay fillers. Improved mixing and extrusion. Improved oxygen barrier properties. Reduced compound cost due to low specific gravity and low cost.
	Other tire components: Side wall, bead, carcass, and fabric coating	Various rubber polymers	Cost reduction: Austin Black® is used as a filler to replace carbon black and rubber polymer.
Automotive/ Industrial	Seals	Fluoroelastomer	High temperature performance and good chemical resistance. Improved mixing and reduced scorching. Improved compression set. Significant cost reduction.
		EPDM (ethylene propylenediene)	Improved mixing and extrusion. Reduced cost.
	Friction products (brake pads)	Not applicable	Low specific gravity. Good high temperature performance.
	Fuel line hoses	Fluoroelastomer	Good chemical resistance and gas barrier properties. Cost reduction.
	Belts, hoses, ducts	Various rubber polymers	Low cost pigment and filler that can be substituted for polymer and carbon black.
Plastics		Various black plastic such as concentrates, LDPE, MDPE, HDPE, PP, PVS, ABS	Reduces the concentrate cost due to low specific gravity and low cost. Used to replace some of the more costly carbon black or resin.
		PVC Plastisols	Cost reduction: Austin Black® is used to replace carbon black in plastisols. Good gas barrier and chemical resistance.
Paints and Coatings	Automotive finishes	Electro-dip primers	Cost reduction.
	Protective coatings	Tar based epoxy	Good chemical resistance and gas barrier properties. Cost reduction.
Commercial Roofing		EPDM (ethylene propylenediene)	Improved mixing and extrusion. Cost reduction: Austin Black® is used as a filler to replace carbon black, polymer, and clay fillers, which have a higher specific gravity.
		TPO (thermoplastic olefin)	Improved mixing and extrusion. Cost reduction: Austin Black® is used as a filler to replace carbon black, polymer, and clay fillers, which have a higher specific gravity.
Sealants and Caulks		Silicone rubber, butyl, urethane	Cost reduction: Austin Black® is used as a filler to replace carbon black, polymer, and clay fillers which have a higher specific gravity.



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