

PCN230S/WDX PERPETUAL CARBON™

CARBONISED BIOCOAL POWDER



Perpetual Carbon powder exhibits good potential to act as a drop-in replacement for a variety of different fossil fuels. It can be used as a substitute for PCI coal (Pulverized Coal Injection) in blast furnace, sinter process or for metallurgic furnace processing. Waste Wood, recycled/B-wood is a blend of treated wood (ISO 17225-1 Class 1.3).

PCN230S/WDX Origin: Waste/Recycled wood. Traded form: powder (Dust).

Benefits

- Renewable substitute
- Alternative to fossil brown coal (lignite solid fuel)
- Up to 2.4 t CO₂ emissions avoided per ton PCN230S
- CO₂-emission factor lignite powder (= 101 kg CO₂/GJ) x CO₂ price (= EU ETS Price in €/ton CO₂)
- High energy density 23 MJ/kg & 62% Carbon

Applications

- Substitute fuel for cement kiln
- Solid substitute for PCI coal in blast furnace
- Solid substitute for sinter process
- Solid for metallurgic blast furnace processing
- Solid feedstock for gasification
- Infra-structure additive



Parameter	Unit	Spec Biocoal Powder*			Testing Standard
		Min.	Typical	Max.	
Particle size < 2,0 mm	w-%	99	-	100	ISO 17829
Particle size < 0,25 mm	w-%	60	-	-	ISO 17829
Particle size < 0,125 mm	w-%	30	-	-	ISO 17829
Bulk Density, BD	kg/m ³ as received	250	300	350	ISO 17828
Moisture **	w-% as received	2.0	3.6	4.7	ISO 18134-1, ISO 18134-2
Ash (composition available)	w-% dry	2.8	3.6	6.3	ISO 18122
Net Calorific Value, NCV (dry) ***	MJ/kg dry	22.5	23.0	23.5	ISO 18125
Net Calorific Value, NCV (a.r.)	MJ/kg as received	21.5	22.0	22.5	ISO 18125
Carbon, C	w-% dry	61.0	62.0	73.0	ISO 16948
Fixed Carbon (a.r.)	w-% as received	28.0	33.0	41.0	ISO 17225
Fixed Carbon (d.a.f.)	w-% dry, ash free	30.0	36.0	45.0	ISO 17225
Nitrogen, N	w-% dry	1.5	2.0	2.5	ISO 16948
Hydrogen, H	w-% dry	5.0	5.5	6.0	ISO 16948
Oxygen, O	w-% dry	19.5	30.5	31.0	ISO 16948
Volatiles	w-% dry	55.0	64.5	70.0	ISO 18123
Sulphur, S	w-% dry	-	0.1	0.5	ISO 16994
Chlorine, Cl	w-% dry	-	<0.1	0.2	ISO 16994
Arsenic, As	mg/kg dry	-	6.5	24.0	ISO 16968
Cadmium, Cd	mg/kg dry	-	1.5	2.5	ISO 16968
Chromium, Cr	mg/kg dry	-	30.5	112.0	ISO 16968
Copper, Cu	mg/kg dry	-	33.5	68.5	ISO 16968
Lead, Pb	mg/kg dry	-	171.5	330.0	ISO 16968
Manganese, Mn	mg/kg dry	-	159.0	235.5	ISO 16968
Mercury, Hg	mg/kg dry	-	-	0.5	ISO 16968
Nickel, Ni	mg/kg dry	-	4.5	12.5	ISO 16968
Zinc, Zn	mg/kg dry	-	290.5	509.0	ISO 16968

* All information in this specification is based on measurements by a certified laboratory as per the referenced ISO norm
 ** Typical moisture after manufacture, can vary on storage and atmospheric conditions
 *** Calculated using typical moisture reference