

Major fuel properties - analysis group A	As Received fuel basis	Moisture content	wt%	fresh sample weight (wet basis)		
		Volatile matter	wt%	Proportion of dry, ash free sample, driven off at to 900°C (volatile matter driven off)		
		Fixed carbon	wt%	Non-combustible mineral content of sample		
	Dry Fuel Basis Analysis	Ash	wt%			
		GCV	kJ/kg	Gross calorific value	Total energy in sample, assuming water vapour produced is condensed and the energy recovered	
		Sulphur	wt%	Percentage of Sulphur in sample, as received		
		Chlorine	wt%	Percentage of Chlorine in sample, as received		
		H	%	Percentage of Hydrogen in sample, as received		
		NCV	kJ/kg	Net calorific value	Energy in sample, assuming water	
On a 'Dry, Ash-free' basis	Ash	wt%	Percentage of non-combustible mineral content in dry sample			
	GCV	kJ/kg	Gross calorific value of dry sample	Total energy in sample, assuming water vapour produced is condensed and the energy recovered		
	C	wt%	Percentage of Carbon in dry sample			
	N	wt%	Percentage of Nitrogen in dry sample			
	H	wt%	Percentage of Hydrogen in dry sample			
	S	wt%	Percentage of Sulphur in dry sample			
Trace elements	On a 'Dry, Ash-free' basis	Cl	wt%	Percentage of Chlorine in dry sample		
		Volatile matter	wt%	Proportion of dry, ash free sample, driven off at	Total energy in sample, assuming water vapour produced is condensed and the energy recovered	
		GCV	kJ/kg	Gross calorific value		
		C	wt%	Percentage of Carbon in dry sample on ash free basis		
		H	wt%	Percentage of Hydrogen in dry sample on ash free basis		
		N	wt%	Percentage of Nitrogen in dry sample on ash free basis		
		S	wt%	Percentage of Sulphur in dry sample on ash free basis		
		Cl	wt%	Percentage of Chlorine in dry sample on ash free basis		
		Pellet physical properties		Ba	mg/kg dry fuel	Barium content in dry sample
Be	mg/kg dry fuel			Beryllium content in dry sample		
Cr	mg/kg dry fuel			Chromium content in dry sample		
Co	mg/kg dry fuel			Cobalt content in dry sample		
Cu	mg/kg dry fuel			Copper content in dry sample		
Mo	mg/kg dry fuel			Molybdenum content in dry sample		
Ni	mg/kg dry fuel			Nickel content in dry sample		
V	mg/kg dry fuel			Vanadium content in dry sample		
Zn	mg/kg dry fuel			Zinc content in dry sample		
Sb	mg/kg dry fuel			Antimony content in dry sample		
As	mg/kg dry fuel			Arsenic content in dry sample		
Hg	mg/kg dry fuel			Mercury content in dry sample		
F	mg/kg dry fuel			Fluorine content in dry sample		
Cd	mg/kg dry fuel			Cadmium content in dry sample: GFAAS value if available, otherwise value from ICP		
Pb	mg/kg dry fuel	Lead content in dry sample: GFAAS value if available, otherwise value from ICP				
Pellet physical properties		Pellet durability %	%	Mechanical durability of pellets represented by their		
		Fines content of pellet <3.15 mm	%	Proportion of fine particles (dust) in the pellet sample		
Ash Oxides (as analysed)		Bulk density	kg/m3			
		Al ₂ O ₃	wt% in ash	Alumina in ash		
		BaO	wt% in ash	Barium oxide in ash		
		CaO	wt% in ash	Calcium oxide in ash		
		Fe ₂ O ₃	wt% in ash	Ferric (Iron(III)) oxide in ash		
		K ₂ O	wt% in ash	Potassium oxide in ash		
		MgO	wt% in ash	Magnesium oxide in ahs		
		Mn ₃ O ₄	wt% in ash	Manganese(II,III) oxide in ash		
		Na ₂ O	wt% in ash	Sodium oxide in ash		
		P ₂ O ₅	wt% in ash	Phosphorus (pent-)oxide in ash		
		SO ₃	wt% in ash	Sulphur (tri-)oxide in ash		
		SiO ₂	wt% in ash	Silica (silicon oxide) in ash		
		TiO ₂	wt% in ash	Titanium oxide in ash		
		Ash oxides,		Al ₂ O ₃	wt% in normalised ash	Alumina in ash
BaO	wt% in normalised ash			Barium oxide in ash		
CaCO ₃	wt% in normalised ash			Calcium oxide in ash		
Fe ₂ O ₃	wt% in normalised ash			Ferric (Iron(III)) oxide in ash		
K ₂ O	wt% in normalised ash			Potassium oxide in ash		
MgO	wt% in normalised ash			Magnesium oxide in ahs		
Mn ₃ O ₄	wt% in normalised ash			Manganese(II,III) oxide in ash		
Na ₂ O	wt% in normalised ash			Sodium oxide in ash		
P ₂ O ₅	wt% in normalised ash			Phosphorus (pent-)oxide in ash		
SiO ₂	wt% in normalised ash			Silica (silicon oxide) in ash		
TiO ₂	wt% in normalised ash			Titanium oxide in ash		

normalised			The normalised ash oxides make use of the "as analysed" values, but normalise them as percentages of the measured total ash content on the assumption that Ca is present as CaCO ₃ rather than CaO, and with S (reported as SO ₃ in the uncorrected analysis) removed
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Ash fusion temperatures	Reducing conditions	Initial deformation Softening Hemisphere Flow	°C	Temperature at which a cone of ash starts to deform in an oxidising atmosphere Temperature at which a cone of ash starts to soften Temperature at which a cone of ash melts sufficient to form a hemispherical blob in an oxidising atmosphere Temperature at which a cone of ash melts, sufficient to start to flow in an oxidising atmosphere
	Oxidising conditions	Initial deformation Softening Hemisphere Flow	°C	Temperature at which a cone of ash starts to deform in a reducing atmosphere Temperature at which a cone of ash starts to soften Temperature at which a cone of ash melts sufficient to form a hemispherical blob in a reducing atmosphere Temperature at which a cone of ash melts, sufficient to start to flow in a reducing atmosphere