

STANDARD DUST TESTS	TEST	DETERMINES	APPLICATION	ASTM STANDARD	CORRESPONDING CEN STANDARD
	Explosibility Screening (20 L and 1 m³)	Potential for combustion.	Screening test to determine if further characterization is needed	E1226 - "Standard Test Method for Explosibility of Dust Clouds"	---
	Dust Explosibility (20 L and 1 m³)	Maximum pressure, P _{max} ; maximum pressure rate-of-pressure-rise, (dp/dt) _{max} ; and deflagration index, K _{max} . Measures potential explosion severity of a fuel-air mixture.	Design of explosion protection systems	E1226 - "Standard Test Method for Explosibility of Dust Clouds"	EN14034-1:2004 Dust EN14034-2:2004 Dust
	Minimum Explosive Concentration of Dusts (MEC)	Relationship between dust concentration and explosion severity.	Design of explosion prevention systems	E1515 - "Standard Test Method for Minimum Explosible Concentration (MEC) of Combustible Dusts"	EN14034-3:2006
	Limiting Oxygen Concentration for Dusts (LOC)	The lowest oxygen concentration in air at which a dust explosion will occur.	Design of explosion prevention systems (specifically inerting systems)	ASTM Draft	EN14034-4:2006
	Minimum Autoignition Temperature: Dust Clouds (MAIT)	Minimum temperature at which a dust cloud will auto ignite when exposed to air heated. Provides a relative measure of dust cloud ignitability.	Analysis and design of explosion prevention and protection systems	E1491 - "Standard Test Method for Minimum Autoignition Temperature (MAIT) of Dust Clouds"	EN50281-2-1
	Minimum Ignition Energy for Dusts (MIE)	Lowest spark energy required to initiate a dust explosion. Assesses relative sensitivity of the sample to ignition by electrical sparks.	Analysis and design of fire/explosion prevention and protection systems	E2019 - "Standard Test Method for Minimum Ignition Energy of a Dust Cloud in Air"	EN13821:2002
	Minimum Dust Layer Ignition Temperature	Lowest spark energy required to initiate a dust explosion. Assesses relative sensitivity of the sample to ignition by electrical sparks.	Analysis and design of fire/explosion prevention and protection systems	E2021 - "Standard Test Method for Hot-Surface Ignition Temperature of Combustible Dusts"	EN50281-2-1
	Percent Combustible Material (PCM)	Percentage of collected sample that is combustible.	OSHA Standard Test #3	---	---
	Dust Burn Rate Screen Test (DBR - SCREEN)	Whether a sample can be classified as not readily combustible solid of Division 4.1.	EPA Method 1030	---	---
	Dust Burn Rate (DBR)	Proper packing group (II, III) of a readily combustible solid within Division 4.1.	EPA Method 1030	---	---
Particle Size Analysis (PSA)	Laser diffraction analysis determines particle size distribution of test sample along with statistical measurements (mean, median, mode).	---	---	---	

STANDARD LIQUID/ GAS TESTS	TEST	DETERMINES	APPLICATION	ASTM STANDARD	CORRESPONDING CEN STANDARD
	Minimum Autoignition Temperature of Liquids (MAIT)	Minimum temperature at which a liquid will auto ignite when exposed to heat.	Analysis and design of explosion prevention systems	E659 - "Standard Test Method for Autoignition Temperature of Liquid Chemicals"	EN14522:2005
	Gas Explosibility	Maximum pressure, P _{max} ; maximum pressure rate-of-pressure-rise, (dp/dt) _{max} ; and deflagration index, K _{max} . Measures potential explosion severity of a fuel-air mixture.	Design of explosion protection systems	---	EN13673-1:2003 EN13673-2:2003
Limits of Flammability: Liquids and Gases	Upper Flammable Limit (UFL) and Lower Flammable Limit (LFL) of liquid or gaseous chemicals at ambient pressure and temperature.	Design of safety systems, process operations and information for publication in Material Safety Data Sheets	E681 - "Standard Test Method for Concentration Limits of Flammability of Chemicals"	EN1839:2003	

SPECIAL TESTING SERVICES	TEST	DETERMINES	APPLICATION	ASTM STANDARD	CORRESPONDING CEN STANDARD
	Limiting Oxidant Concentration: Gases and Vapors	Limiting oxidant concentration at elevated temperature and pressure.	Design of safety systems, process operations and information for publication in Material Safety Data Sheets	E2079 - "Standard Test Method for Limiting Oxygen (Oxidant) Concentration in Gases and Vapors"	EN14756:2006
	Limits of Flammability: Elevated Temperature and Pressure	Upper Flammable Limit (UFL) and Lower Flammable Limit (LFL) of gaseous chemicals in air at elevated pressure and/or temperature pressure (>70°F, 1 atm).	Design of safety systems, process operations and information for publication in Material Safety Data Sheets	E918 - "Standard Practice for Determining Limits of Flammability of Chemicals at Elevated Temperature and Pressure"	---
	Large Scale Tests	4, 5 and 10m ³ vessels: Dust Collectors; Pipelines.	Application development and testing	---	---
	Autignition Temperature: Elevated Pressure	Autoignition temperature of liquid or gaseous chemicals in air or other oxidant at elevated pressure.	---	---	---
	Bulk Resistivity Measurement Test	Electrical resistance of a powder.	---	---	---
Charge Relaxation Test	Measures the tendency of highly resistive powders to generate and retain electrical charge.	---	---	---	