



MINING CABLE LOAD BURNING TESTER

Mining Cable Load Burning Tester – ToronFT™ MCL

ToronFT™ MCL Mining Cable Load Burning Tester is a specialized laboratory instrument designed for testing the flame retardant performance of mining flame-resistant cables, fire-retardant cable joints, and other flame retardant performance cable assemblies under electrical load conditions. Mining cable burning testing under load simulates the real-world condition of energized cables — where the combined thermal stress of electrical current and external flame exposure represents the most demanding operational fire scenario in underground mining environments.

The ToronFT™ MCL features a precision electric control box paired with a dedicated combustion box, with overall chassis dimensions of L1100 mm × W535 mm × H300 mm and a combustion box size of L1100 mm × W500 mm × H900 mm. The chassis is CNC machine tool-processed and electrostatically painted at high temperatures for long-term durability.

APPLICATIONS

Mining Cable Load Burning Tester – ToronFT™ MCL Applications

The ToronFT™ MCL is designed for mining cable burning testing and flame retardant performance evaluation of:

- Mining flame-resistant cables for underground coal mines and metalliferous mines requiring load burning tester certification
- Fire-retardant cable joints and splices for mining cable systems under electrical load burning conditions
- Armored and unarmored mining cables requiring flame retardant performance testing under simulated energized (load) conditions
- Rubber-sheathed flexible mining cables and control cables for mine equipment for load burning tester qualification
- Other flame retardant performance cables used in mining infrastructure — including power distribution, signaling, and communication cables

- Research and development of new mining cable jacket compounds and flame-retardant insulation formulations for load burning performance optimization



FEATURES

Mining Cable Load Burning Tester - ToronFT™ MCL Key Features

- Two-part mining cable load burning tester system — electric control box plus combustion box — enables simultaneous electrical load application and flame exposure for realistic energized mining cable burning test conditions
- Rugged CNC-processed chassis (L1100 mm × W535 mm × H300 mm) with high-temperature electrostatic paint finish provides long-term mechanical durability and corrosion resistance for demanding mining cable burning tester environments
- Dedicated combustion box (L1100 mm × W500 mm × H900 mm) provides ample space for full-length mining cable specimen mounting and standardized flame exposure geometry
- Standard power: 500W — providing reliable electrical control and load simulation capability for mining cable load burning tests
- Precision blowtorch with nozzle outlet diameter $\varnothing 0.90 \pm 0.03$ mm and nozzle length 1.60 ± 0.05 mm delivers a calibrated, reproducible flame for consistent mining cable burning test ignition conditions
- Nozzle height from air inlet: 102 mm; inner flame tube diameter $\varnothing 9.5$ mm — meeting the dimensional specifications required for standardized mining cable flame retardant performance test flame geometry
- 90° vertical blowtorch angle (longitudinal axis on vertical plane, 90° to vertical direction) with adjustable air intake produces inner flame 70–80 mm and outer flame 115–135 mm for controlled mining cable flame exposure
- Methane/coal gas fuel with calorific value 998 BTU provides the standardized combustion energy specified for mining cable load burning tester flame calibration

THEORY & METHOD

Theory and Method

Mining cable load burning testing evaluates the flame retardant performance of a mining cable assembly under combined electrical load and external flame exposure — simulating the scenario of an energized cable subjected to external fire ignition in an underground mining environment. The simultaneous application of electrical current and flame allows assessment of whether the cable's insulation, jacket, and flame-retardant system can prevent sustained combustion and flame propagation even under the additional thermal stress of electrical loading.

In the ToronFT™ MCL, the mining cable specimen is mounted in the combustion box and connected to the electric control box, which applies the specified electrical load during the burning test. The combustion blowtorch delivers the test flame to the cable specimen at the standardized impingement angle and position. The blowtorch nozzle outlet diameter is $\varnothing 0.90 \pm 0.03$ mm, nozzle length 1.60 ± 0.05 mm, with the nozzle height from the air inlet at 102 mm and an inner flame tube diameter of $\varnothing 9.5$ mm.

The blowtorch angle is 90° vertical (longitudinal axis on vertical plane), forming a 90° angle with the vertical direction, with adjustable air intake (inner flame 70–80 mm, outer flame 115–135 mm). The gas source is methane/coal gas with a calorific value of 998 BTU (British Thermal Unit), providing a standardized, calibrated combustion energy input for reproducible mining cable load burning test conditions.

TECHNICAL SPECIFICATIONS

Mining Cable Load Burning Tester - ToronFT™ MCL Technical Specifications

Parameter	Specification
Product Name	Mining Cable Load Burning Tester — ToronFT™ MCL
Instrument Composition	Electric control box + combustion box
Overall Chassis Size (L×W×H)	1100 mm × 535 mm × 300 mm

Parameter	Specification
Combustion Box Size (L×W×H)	1100 mm × 500 mm × 900 mm
Chassis Construction	CNC machine tool-processed; electrostatically painted (high temperature)
Standard Power	500 W
Blowtorch Nozzle Outlet Diameter	ø0.90 ± 0.03 mm
Blowtorch Nozzle Length	1.60 ± 0.05 mm
Nozzle Height from Air Inlet	102 mm
Inner Flame Tube Diameter	ø9.5 mm
Blowtorch Angle	90° vertical (longitudinal axis on vertical plane; 90° to vertical direction)
Air Intake	Adjustable; inner flame 70–80 mm; outer flame 115–135 mm
Gas Source	Methane/Coal Gas; calorific value 998 BTU

For more information, pricing, or to request a quotation, please contact ToronFT. Specifications are subject to change without prior notice.



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