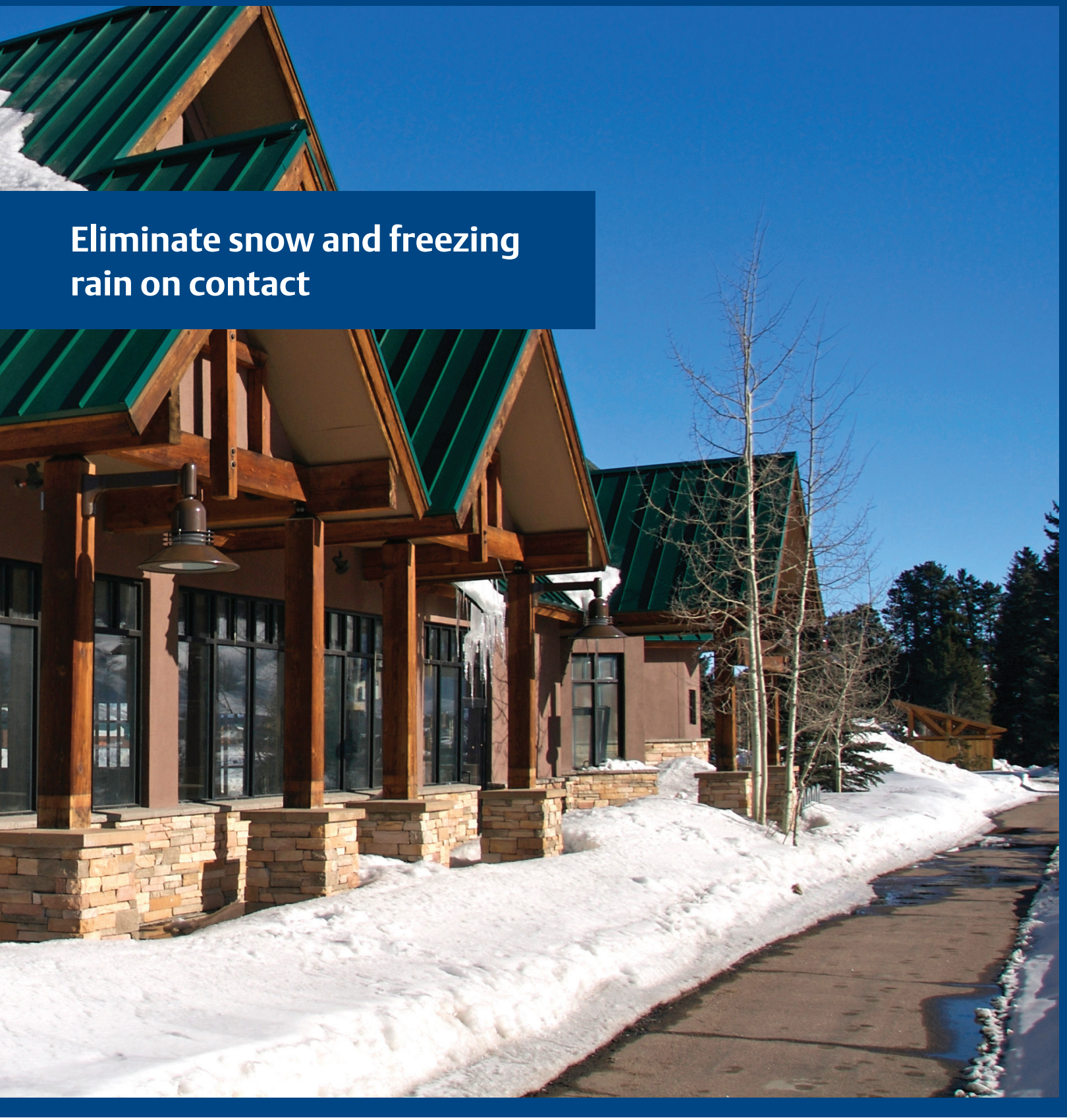


Eliminate snow and freezing rain on contact

Nelson™ Heat Trace Snow Melting Systems

Automatic electric snow and ice melting systems for Commercial Applications

EMERSON™

Keep pedestrian and vehicular areas clear of snow and ice – the easy way

Snow melting systems are ideal for new concrete and retrofit installations of walkways, driveways and dock areas.

Winter in many parts of the country can mean shoveling and salting driveways, sidewalks and parking lots to keep your facility accessible for workers and customers alike. The assurance that they can safely navigate these spaces without the dangers of slipping and falling can alleviate the added stress snow and ice can add, while also reducing your maintenance budget.

What if you could install a new or retrofit snow melting system that prevents the build up of ice and snow eliminating the need to shovel, plow and salt? What if that system could turn on automatically when needed, so you can worry about something besides the weather.

" Our shipping docks operate 24/7 during the winter, that meant having to worry about the accumulation of snow and ice. With our new snow melting system in place, we don't have to take time to shovel, or worry about sliding trucks or slip and fall accidents around the dock."

- Dock supervisor at a large distribution center.

" Having a snow melting system in the walkways has reduced not only the manpower needed to clear the surfaces of snow and ice, but our liability insurance premiums as well."

- Engineer at a building management company.

Nelson Heat Trace Snow Melting Systems

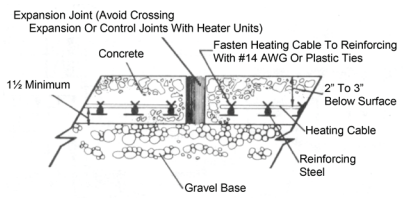
Snow melting systems are a simpler and safer method of removing and preventing surface snow and ice buildup on steps, walkways, driveways, parking areas, ramps and loading docks. They offer an effective alternative to the application of salts and other chemicals which result in damage to pavement, building infrastructure and, potentially, the environment. For commercial facilities, snow melting systems are a simpler and safer method of removing surface snow and ice 24 hours a day, 7 days a week.

Nelson snow melting systems are easy to install in concrete, asphalt or under pavers, either as part of a new installation or retrofit. When connected to optional controls that detect moisture and freezing temperatures, they start working when the snow starts to fall to help prevent the accumulation of snow and ice.

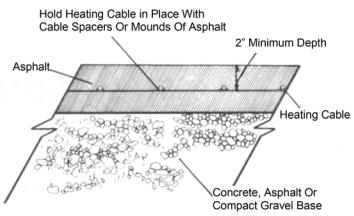
Product Benefits

- No damage to concrete or asphalt from salt or other chemicals.
- No messy buildup of sand.
- No waiting for snow removal service personnel.
- No investment in snowblowers, shovels, plows, and other expensive equipment.
- Minimal labor costs.
- There are no moving parts.

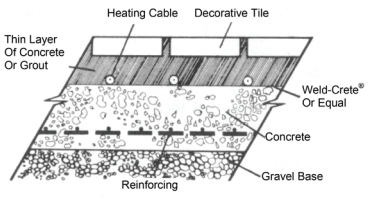
General Installation



Installation in Concrete



Installation in Asphalt



Installation Under Pavers

Nelson Mineral Insulated Cable

Series Resistant Cable. Ideal for Harsh and Rugged Commercial Applications.

Nelson Mineral Insulated Cable is used for the electric heating of paved surfaces which provides exceptional protection of heat when use of a pliable cable is insufficient. Mineral insulated cables can be configured in lengths that cover, depending on the voltage selected and configuration, from about 20 to 250 square feet (1.8 to 23 square meters) using a single cable. Mineral insulated cable is available in 120 Vac to 600 Vac voltages and can be configured for up to 72 Watt outputs per square foot. Cables can easily be combined and tailored to cover your unique high traffic ramp, walkway, driveway, parking area and loading dock configurations.

Cable Construction

Mineral insulated cable is a metal sheathed cable that uses metallic conductors as the heating elements. The conductors are electrically insulated from the metal sheath by mineral-magnesium oxide (MgO). The mineral insulated cable is a series resistance heater that generates heat when electrical current passes through the heating elements.

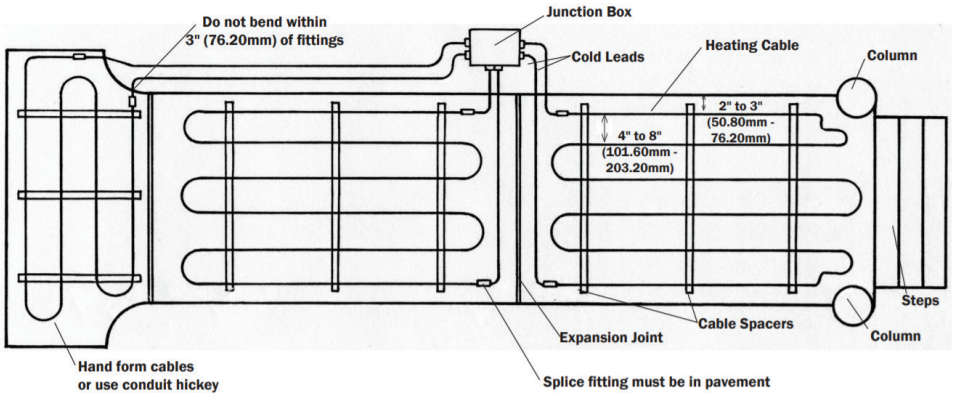
Advantages of Mineral Insulated Cable

- Provides a series resistance heating system so that the power output is uniform and constant over the entire length of the cable.
- Eliminates oversizing of circuit breakers because of cold temperature inrush. Mineral insulated cables do not exhibit cold temperature inrush, and circuit breakers are sized for steady state load.
- Have a rugged, Alloy 825 outer sheath which resists mechanical damage during installation. Jacketed copper sheathed mineral insulated cables are easily damaged during installation leading to premature failure from chemical additives in the concrete and/or galvanic corrosion from rebar or wire mesh.
- Can be operated up to 600 volts. Increased voltage results in longer circuit lengths and fewer circuits for an overall reduction of power distribution costs.
- Can be operated up to 70 watts per foot. Because of the superior performance capabilities of mineral insulated cable, power outputs can be increased, which reduces the amount of cable necessary for the required watt density.
- Can withstand high exposure temperatures, a requirement for installation in asphalt.

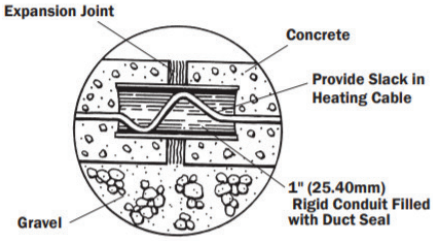
Nelson Mineral Insulated Cable

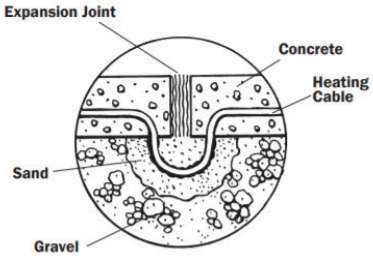
Series Resistant Cable. Ideal for Harsh and Rugged Commercial Applications.

Nelson Snow Melting Systems Typical Configurations

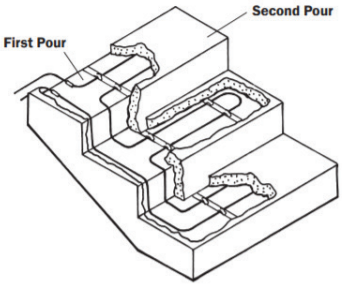


Crossing Control Joints



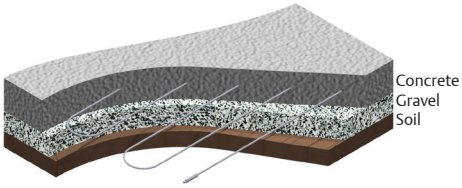


Stair Configuration



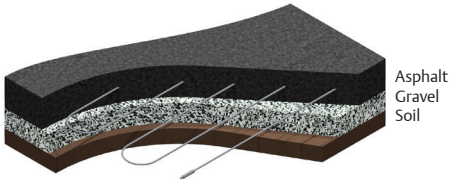
Nelson Snow Melting Systems Typical Installations

In Concrete



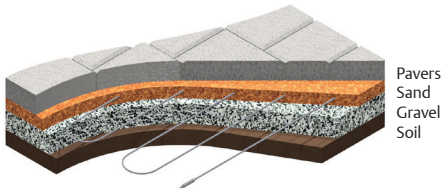
Nelson Mineral Insulated Cable

In Asphalt



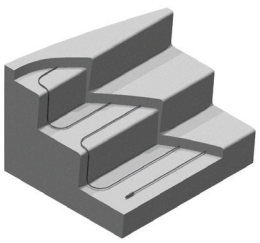
Nelson Mineral Insulated Cable

Under Pavers



Nelson Mineral Insulated Cable

Stair Configuration



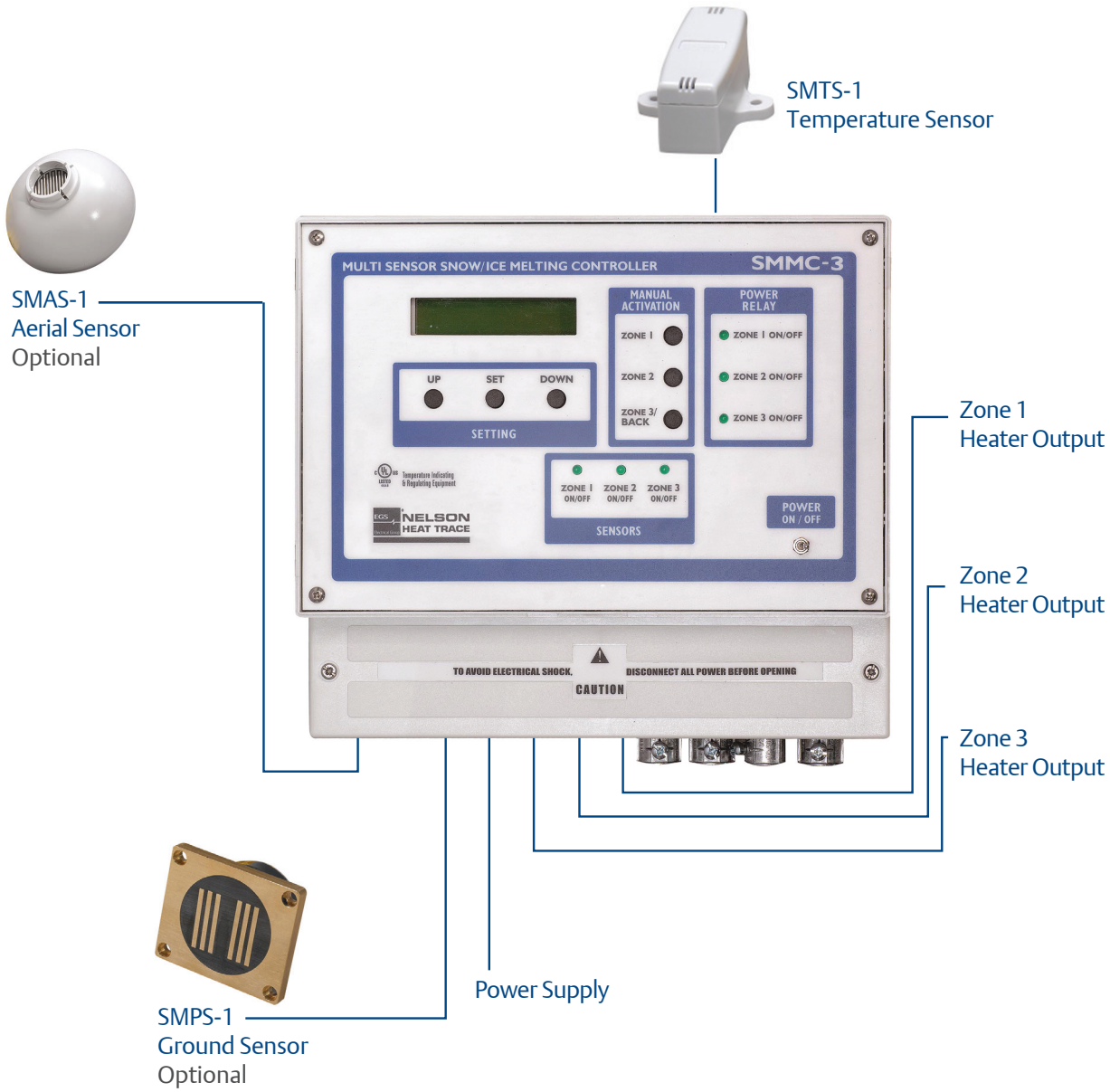
Nelson Snow Melting Controls

Ideal for Harsh and Rugged Commercial Applications.

Nelson snow melting controls are designed and manufactured for use with electric heating snow melting systems such as Nelson mineral insulated snow melting cables.

SMMC-3 Controller and Optional Accessories

Maximum 2 sensors per zone



Nelson Snow Melting Controls

Ideal for Harsh and Rugged Commercial Applications.

SMMC-3 Controller

The commercial grade SMMC-3 control panel is capable of monitoring and controlling snow and ice accumulation on large areas such as sidewalks, ramps, loading docks and driveways. It is the ideal solution for areas that are 200 square feet or larger. The 120 Vac unit comes complete with the SMTS-1 temperature sensor which measures outside temperatures. The SMMC-3 is housed in a NEMA 4, 4X enclosure suitable for commercial applications and features an LCD display, programming and associated indicator lights for the operation of up to 3 separate zones, sequentially or independently. Optional sensors are available to further monitor each zone's weather conditions.

Modes of operation:

- Mode 1. Operation of three separate zones can include snow melting on each independent zones.
- Mode 2. Operation is used to reduce power demand by sequencing through three independent zones.

SMTS-1 Temperature Sensor

The TS-1 Temperature Sensor measures outside (ambient) temperatures. It should be placed in the area that best represents the outdoor temperature conditions. The 120 Vac SMTS-1 sensor has an operating temperature of -40°F to +150°F (-40°C to +65°C) and a 16 mA switching current. The SMTS-1 is supplied with 10 feet (3 meters) of connection wire which can be extended up to 500 feet (152 meters).

SMAS-1 Aerial Moisture Sensor

The optional SMAS-1 Aerial Moisture Sensor is used to detect falling or blowing snow coming in contact with the sensor grid. During these conditions, the SMAS-1 sensor sends a signal to the SMMC-3 to energize the heating equipment. The SMAS-1 is supplied with a connection wire that can be extended up to 500 feet (152 meters) with an appropriately rated 18-20 AWG 3 wire unshielded stranded cable.

SMPS-1 Moisture Sensor

The optional SMPS-1 in-ground moisture sensor turns on when it detects falling or drifting snow, monitoring the temperature of the surface being heated. The SMPS-1 sensor is encased within a rugged enclosure and is designed to be embedded in the surface allowing it to monitor the slab's temperature to assure optimum energy savings. The SMPS-1 is supplied with 30 feet (9 meters) of wire to allow for connecting the sensor back to the SMMC-3 control unit.

SS1 Controller

The SS1 is an automatic stand-alone controller which uses microcontroller technology to energize the heating cable only when specific conditions of temperature and moisture exist. It is the ideal solution for areas that are less than 200 square feet. The 120 Vac SS1 control has 16 amp switching and an LED indicator which indicates when the system is operating, and when the sensor needs to be cleaned.

Heating cable solutions for temperature-related problems

NELSON™

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