

Measurement of Loss of Elevator Wire Rope Diameter

Subject: Use of the “Technical Standard Safety Authority (TSSA) Rope Gauge”

This STANDATA was developed by Safety Services and the Elevator Technical Council to clarify the use of the “TSSA Rope Gauge” in the measurement and evaluation of wire rope diameter in Alberta.

Background:

Elevator wire ropes will be inspected and replaced in accordance with the requirements of Section 12.4 of AR 216/97, Elevating Devices Codes Regulation. This Regulation requires that wire ropes be replaced if less than the minimum permitted diameter.

The “TSSA Rope Gauge” was developed for use in the elevator industry to provide a consistent means of measuring for loss of diameter on existing elevator ropes. Each “TSSA Rope Gauge” is fitted with multiple gauge openings to permit the measurement of several sizes of wire rope.

Acceptable Method of Determining Definite Loss of Diameter:

The “TSSA Rope Gauge” and criteria provide an acceptable means to determine definite loss of elevator wire rope diameter in the Province of Alberta, when used in accordance with the instructions for the device and viewed in conjunction with all other rope conditions. The proper use of this device is deemed to satisfy the requirements for measurement and evaluation of wire rope diameter as required in the Regulation AR 216/97 clauses 12.4.1(c), 12.4.2.1(a), and 12.4.2.2(a).

The following page illustrates the “TSSA Rope Gauge”, summarizes the measurement procedures, and lists the source for obtaining a “TSSA Rope Gauge”.



SAFETY CODES COUNCIL

Issue of this STANDATA is Authorized by
the Administrator

Al Griffin





TSSA ROPE GAUGE

SUBJECT:

The gauge is an initiative of TSSA/Contractors Working Relations Committee and was developed in a consultative environment with industry stakeholders. The gauge is not intended to replace any code criteria but establish a definite loss of diameter only. The gauge:

- *Is user friendly and cost effective*
- *Sets a standard for definite loss of diameter*
- *Eliminates disputes and marginal calls*

BACKGROUND:

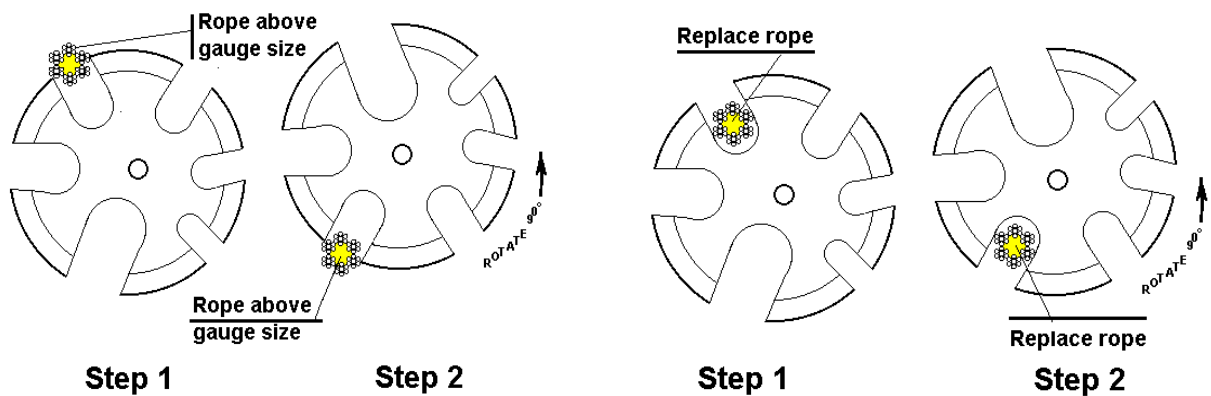
The objective is to provide a consistent means of measuring for loss of diameter on existing elevator ropes. The gauge will be used by maintenance contractors and the inspection authority. Stakeholders decided the gauge should be sized .005" below the minimum requirement by code for all ropes. The only exception is 3/8" diameter rope, which is sized .003" below the minimum code requirement. Gauge tolerances are $\pm .002$ ". The following instructions apply the principles of the Canadian Standard G387 Steel Wire Ropes for Elevators.

INSTRUCTIONS:

Determine loss of diameter:

- 1) By fitting the gauge to the rope at two points spaced at least 1 metre apart; at each point the gauge shall be fitted twice at right angles to each other (See Illustrations Step 1 & 2)
- 2) By sliding the gauge the length of one rope lay. Loss of rope diameter is indicated when the gauge moves freely **at all four measurements**.

DO NOT FORCE THE GAUGE ON THE ROPE



Gauges are available from TSSA. Contact Arni Billimoria via Fax @ 416-325-1125
 Price \$49.95 plus S &H & applicable taxes

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