



REPORT NO: 284-4994-1
CLIENT NO: L19154
DATE: April 7, 1999

DESCRIPTION: **Drop Tests on Hi-Rise Safety Line Strap Anchor Assemblies**
PROJECT: Ledcor
CLIENT: **Safe-T-Strap**
20 Bermondsey Road, Toronto, Ontario M4B 1Z5
ATTENTION: Mr. Richard Vallance

Introduction

This report covers drop tests carried out on three safety line strap assemblies identified as "Hi-Rise Anchor Assemblies". Testing took place in our Mississauga, Ontario laboratory on April 6, 1999 on test specimens submitted that day in new and undamaged condition. Testing was performed in accordance with CAN/CSA-Z91-M90 Section 7.2.2.2(b).

Test Specimens

Each safety line strap assembly measured 42" long overall and consisted of a length of 2" nominal wide dyed yellow nylon 8000 lb. capacity webbing with a 3/8" thick, 2-3/4" x 3" overall steel 'D'-ring at one end held by a stitched loop formed by the webbing. This loop was overlapped once, the overlap measuring 4-1/4" long and was stitched by a "double zigzag (2WW)" stitch pattern measuring 2-1/4" x 1-1/2" overall. The other end of the strap was overlapped twice, the overlapped portion measuring 5-1/4" long overall. These three layers of strap were sewn together using the "double zigzag (2WW)" stitch pattern measuring 2-1/4" x 1-1/2" overall.

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Procedure

The safety line straps were anchored to a solid cast concrete block measuring 12"x12"x12" overall. The concrete block was securely fixed to vertical steel column 10' above the floor. The safety line straps were anchored to the top (horizontal) surface of the concrete block using four 1/4"x 2-3/4" long Tapcon™ self tapping concrete anchors. These anchors were installed into pre-drilled 3/16" holes. The anchors were installed approximately 1" apart in a square shaped configuration. The anchors passed through the twice overlapped end of the safety line strap, the above square shaped installation configuration centered on the stitch pattern. The anchored end of the safety line strap was located approximately 7" from the vertical edge of the block. The free end of the safety line strap hung freely off this edge of the block in a vertical orientation. A 225 lb. weight was hooked to the 'D'-ring on the free end of the safety line strap and allowed to hang freely. The weight was raised to a height of 48" above its free, at rest, level and released instantaneously. The effects of the drop test were noted.

Results

<u>Sample No</u>	<u>Drop Height</u>	<u>Comment</u>
A	48"	Pass- The safety line strap withstood the 48" drop with no visible failure of the strap assembly, anchors, or anchoring medium (concrete).
B	48"	Pass- The safety line strap withstood the 48" drop with no visible failure of the strap assembly, anchors, or anchoring medium (concrete).
C	48"	Pass- The safety line strap withstood the 48" drop with no visible failure of the strap assembly, anchors, or anchoring medium (concrete).

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Conclusions

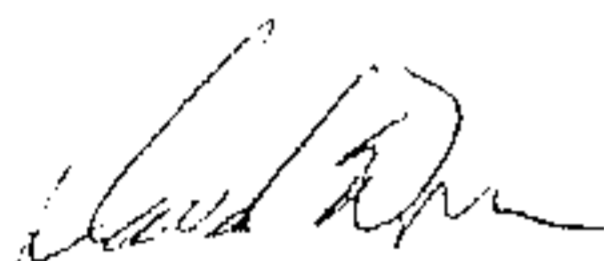
The three Hi-Rise safety line strap anchors described herein met the requirements of CAN/CSA-Z91-M90 Section 7.2.2.2(b) when tested to same.

Tested by: David Wren, Michael MacDonald.

Reported by: David Wren

Respectfully submitted,

Intertek Testing Services NA Ltd.

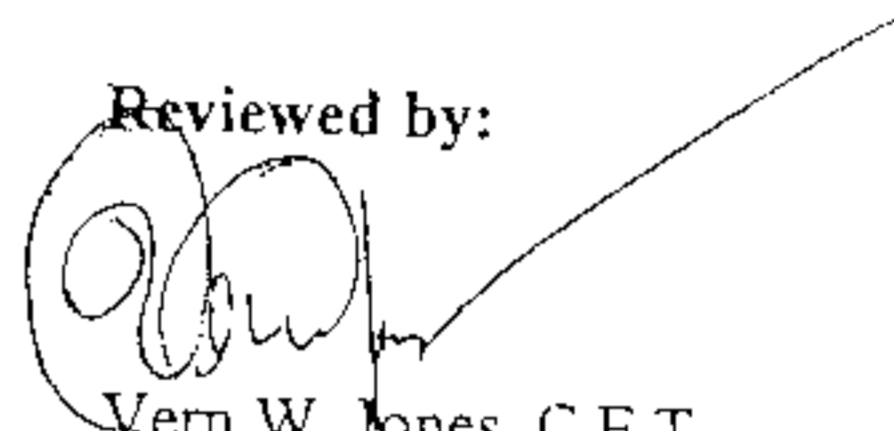


David Wren, P.Eng.
Physical Testing Services

DHW:dhw
2cc Client



Reviewed by:



Vern W. Jones, C.E.T.
Manager
Physical Testing Laboratory

① PULL BACK GREEN SLEEVE

② TAPCON THROUGH STITCHED AREA USING A BOX PATTERN INTO CONCRETE

