

Steel Tape Accuracy

STEEL TAPES – Lufkin Chrome Clad tapes have proven their durability and accuracy through the years and are available today in closed box tapes, open reel styles and surveyors chains. Replacement refills and reels are available for all Chrome Clad tapes, and Ellerbusch carries a complete line of replacement parts.

The following quote on the accuracy of Lufkin Steel tapes comes from the manufacturer:

STEEL TAPE LINE ACCURACY

Lufkin steel tapes are made to government standards. Our bench standards for the United States Department of commerce, National Bureau of Standards, Washington, D.C. Tapes for Canada we make to Canadian government standard.

Temperature standard for steel tapes is 68° F., which equals 20° C.

Coefficient of expansion of steel tapes is 0.00000645 per degree F 0.0000116 per degree C. This amounts to 0.000645 foot or 0.00774 inch per degree F. on a 100-foot tape, and one-half as much on a 50-foot tape.

As a figure that is reasonably close to actual, and also easy to handle, it is customary on very long runs of pipe to allow 1/10" per 100 feet for each 10° change in temperature.



Above illustration shows, for a 100-foot tape, the actual length variations of temperature within the range of 20° below to 120° above zero F. The terminal graduation on lower edge is at 68°, this being standard temperature. Furnished only when specified and at additional cost.

Standard tension for steel tapes 25 to 100 feet long (10 to 30 meters), supported entire length on horizontal, flat surface, is 10 pounds (4.5 kilograms); for all tapes over 100 feet, 20 pounds. For steel tapes suspended horizontally and supported only at ends, there can be no set or standard tension for accuracy because of weight and other variations.

The following listings are averages of many tests made by the Bureau of Standards of Lufkin steel tapes supported throughout, and supported ends only. These averages are taken from experience of tests and should be used as a working basis only and not to replace the test of any individual tape.

| Width Tape Inches | Kind of Tape | Tension of Accuracy Supported | |
|-------------------|-----------------------|-------------------------------|-------------------|
| | | thruout in lbs. | ends only in lbs. |
| 1/4 | Chain Tapes | 10 | 24 |
| 1/4 | Engineers | 10 | 18 |
| 1/4 | Engineers Extra | | |
| | Heavy Tapes | 10 | 24 |
| 3/8 & 1/2 | Standard Weight Tapes | 10 | 18 |

All tape lengths are 100 feet.

NOTE:

Temperature and tension need to be taken into account only on very precise work. We recommend government test of tapes to be used for such work or for use as master standards. The U.S. Bureau of Standards makes a moderate charge for this test.

NYLON COATED STEEL TAPES – The yellow-faced Nyclad steel tapes offer an economical alternative to the higher priced Chrome Clad tapes. A complete line of yellow tape replacement refills and reels are available at Ellerbusch.

FIBER TAPES – Ellerbusch carries a complete assortment of Cloth and Fiberglass tapes. Being non-metallic, these tapes offer protection from electrical hazards. Fiberglass tapes are available in both open and closed reel styles, and the PVC coating can take heavy use in water, mud and dust. Stains wipe off with soap and water for easy maintenance.

POCKET TAPES & FOLDING RULES – Ellerbusch offers a complete line of pocket tapes and folding rules for the builder and engineer.

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