

# Cable suspension and anchoring

## UNITEST

### GENERAL

Brand Cimbria  
Model Unitest - Cable suspension and Anchoring

The Unitest system can be used in all types of grain storage facilities and can be installed in both new and existing installations. The temperature is constantly monitored by means of a number of sensors which are fitted in carrying cables specially designed for installation in harsh environments.

The suspension of the measuring cable(s) in the bin depends on the silo structure and the strength of the roof (ceiling).

**Do not fit a cable in an area where it can be destroyed by an incoming grain stream!!**

Keep the cable-end clear of the silo cone in order to avoid damage from grain rotation and pressure during unloading.

The above graphs show the tensile load in a concrete bin and a steel/wooden bin.

The tensile load  $P$  (kg) in a heavy duty measuring cable is based on the following parameters:

- Cable length immersed in the stored material
- Diameter of the silo
- Density of the stored material
- Discharge coefficient in the silo.

The graphs show the values for wheat with a specific weight of  $760 \text{ kg/m}^3$  and friction angles grain-grain =  $20^\circ$ , grain-concrete =  $25^\circ$ , grain-steel =  $15^\circ$ , grain-measuring cable =  $11^\circ$ , and only one centrally suspended and free hanging measuring cable in the bin.

The graphs are only intended as a guide. In any specific case the tensile load must be evaluated (calculated).

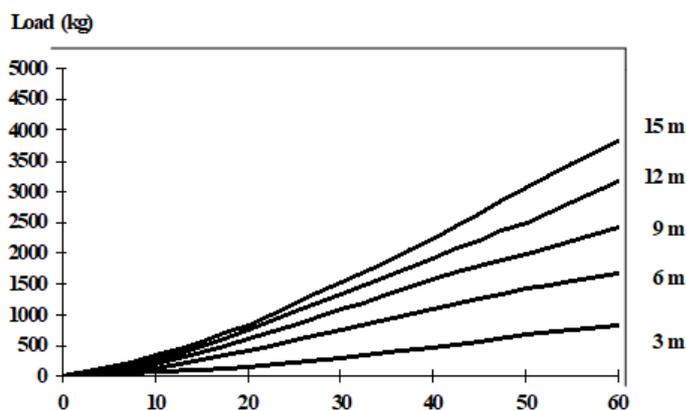
Consult the civil engineer for the silo regarding the resulting load on the silo roof.

The graphs comprise a dynamic safety factor of + 40%.

### Anchoring the cable

In some cases it may be desirable to anchor the measuring cable to the bottom of the bin. This can easily be done, as the cables are provided with anchoring bushing at the bottom of the cable.

### Tensile load in cables suspended in a concrete silo



### Tensile load in cables suspended in a steel silo

