

State of California
Department of Food and Agriculture
Division of Measurement Standards

Certificate Number: 5338-03

Page 1 of 2

California Type Evaluation Program
Certificate of Approval
for Weighing and Measuring Devices

For:

Hopper Scale Weighing/Load Receiving Elements
Load Cell Electronic
Models: WB-40, CHS-5, WHS-2
 n_{\max} : 1 000
 e_{\min} : See Table Below
Capacity: See Table Below

Accuracy Class III L

Submitted by:

Besser San Antonio
442 N.W.W. White Road
San Antonio, TX 78219
Tel: (210) 333-1111
Fax: (210) 333-1508
Contact: Robert E. Frisby

Standard Features and Options

Primary weight indications and motion detection are provided by an approved and compatible weight indicator.

Model	Capacity	e_{\min}	n_{\max}	Dimensions as Tested	Max Distance Between Load Cells
WB-40	20 000 lb	20 lb	1000	60" x 30"	20'
CHS-5	5 000 lb	5 lb	1000	104" x 30" x 36"	33"
WHS-2	2 000 lb	2 lb	1000	97" x 28" x 34"	31"

Load Cells:

- (6) Rice Lake Model RL20000A-10K (WB-40)
- (4) Rice Lake Model RL20000A-5.0K (CHS-5)
- (4) Rice Lake Model RL20000A-2.5K (WHS-2)

This device was evaluated under the California Type Evaluation Program (CTEP) and was found to comply with the applicable technical requirements of California Code of Regulations for "Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.



Effective Date: June 23, 2003

Mike Cleary, Director

Besser San Antonio
Hopper Scale Weighing/Load Receiving Elements
Models: WB-40, CHS-5, WHS-2

Application: General purpose weighing of individual construction materials used to make concrete when interfaced with an approved and compatible weight indicating element.

Identification: An identification tag is attached to the support frame of each weighing element.

Sealing: The weighing/load receiving elements have no components that require the use of a security seal. Sealing of metrological components are accomplished through the associated indicating element or batch controller.

Operation: Weighing elements are used to weigh individual ingredients (e.g. sand, aggregate, cement, and water) and are sent to the batch mixers via a belt conveyor. Except for the water, the ingredients are discharged through two mixers into a holding hopper. If required, additional ingredients, such as fly ash, are weighed and also sent to the holding hopper. The contents of the holding and water hoppers are then discharged into a cement truck.

Test Conditions: The hoppers were submitted for evaluation interfaced to a Jonel Engineering batch controller, Model Advantage Batching Controller (Certificate of Approval Number 4257-96). The emphasis of the evaluation was on device design, performance of the weighing element, and marking requirements. The 60' live bottom (static weighing belt conveyor) Model WB-40 aggregate hopper was tested with 20 000 pounds of known test weights. Several increasing/decreasing load, discrimination, and return to zero tests were initially performed and then repeated after approximately 70 days and a minimum of 300 normal use weighments. The initial and permanence test conditions as stated above were repeated using 5 000 pounds of known test weights on the cement hopper Model CHS-5 and 3 000 pounds of known test weights on the water hopper Model: WHS-2. Additionally, the water hopper was first tested with the indicator configured to indicate in pounds and then tested with the indicator configured to indicate in gallons using the conversion of 8.3216 lbs/gal of water.

Results of the evaluation indicate the devices comply with applicable requirements.

Type Evaluation Criteria Used: Title 4, California Code of Regulations, 2003 Edition

Tested By: R. Norman Ingram and Sam Boyd