

A telescopic boom moves the spreader head across the slab, releasing material as it moves.

Selecting a Material Spreader

Truss and boom spreaders offer several options

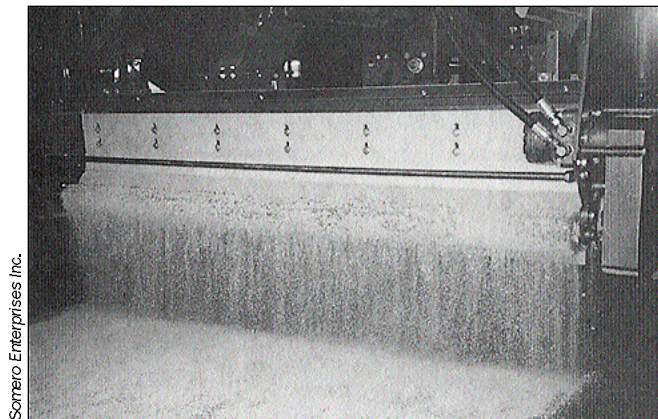
BY DESIREE WARD

The pour is almost complete. The concrete has been placed and screeded, and workers have begun finishing the floor. But instead of troweling, which often occurs at this stage, workers begin setting up a material spreader which applies

trap rock to the floor.

A material spreader is used to apply one of several types of material, including floor hardeners, coloring materials, light reflectants, and aggregates. Floor hardeners—quartz, mineral, metallic—are typically used on industrial applica-

tions, such as areas with forklift traffic, to improve the wear and life of the floor. Coloring materials and light reflectants often are used in military and industrial settings to save on lighting costs and reduce dark spots. Coloring materials also are used for decorating. Aggregates—emery, trap



Somero Enterprises Inc.

Material flow rate on boom spreaders varies, depending on boom speed. The flow rate on truss spreaders always remains constant.

rock—also are used to improve a floor's wear resistance.

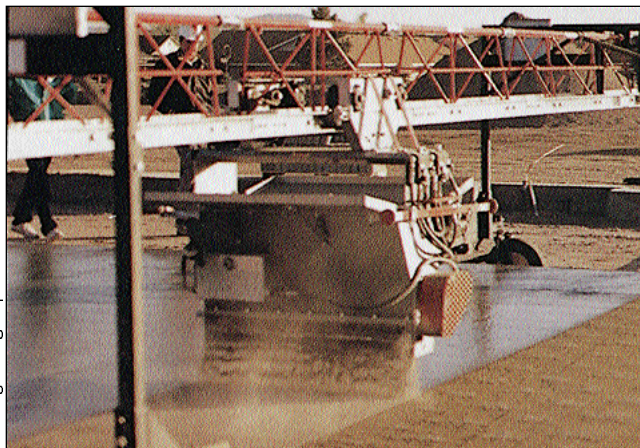
Spreader Types

On truss-type material spreaders, the spreader's bridge section straddles the form, with an operator on each end of the bridge. Material is placed in the spreader's hopper and the hopper moves across the bridge at a controlled speed, releasing the material onto the slab. Once the hopper reaches an end of the bridge, the hopper is put in the neutral position and the spreader is slid down the sides of the form to the appropriate spot.

ON TELESCOPIC-BOOM SPREADERS, THE MATERIAL SPREADING RATE INCREASES OR DECREASES, DEPENDING ON BOOM SPEED.

If material is being added to the hopper from just one side of the form, and not enough material is in the hopper to make it back to the other side, some material spreaders allow an operator to put the hopper in reverse. The hopper then travels back to the other side of the form without releasing any material.

Telescopic-boom material spreaders work in a similar fashion. A



Truss spreaders straddle the slab, allowing the hopper to travel back and forth across the slab and release material.



Allen Engineering Corp.

After the hopper reaches the edge of the slab, operators put the hopper in neutral and move the spreader down the form.

hydraulically driven, self-propelled spreader head, which stores the material falling onto the surface, is attached to a telescopic boom, which is part of a ride-on machine. An operator drives the machine along one side of the form, moving in increments equivalent to the pour's width. The telescopic boom, which cantilevers from the ride-on machine at various lengths, carries the spreader head across the slab as material is released. The spreader head automatically reloads with material from the bulk storage hopper after every pass. The spreader head automatically changes the material's distribution rate to match the boom speed, assuring uniform coverage.

Features

On truss material spreaders, the hopper runs across the slab on a bridge. Bridge sections are available in several sizes, including 2-, 2½-, 5-, 7½-, and 10-foot sections. These sec-

tions weigh around 7 pounds per foot, depending on the size of the section.

When assembling a material spreader, the bridge is assembled first. The number and the size of the bridge sections used depends on the width of the slab. After all bridge sections are in place, one of the wheel units is assembled onto one end of

ON MANY TRUSS-TYPE SPREADERS, MOVING A VALVE ON THE HOPPER WILL INCREASE OR DECREASE MATERIAL FLOW.

the bridge. By pushing these wheel units, operators move the material spreader down the form. The spreader's hopper is put onto the bridge by assembling it on the end without the wheel unit; the wheel unit is then assembled to the open end.

Telescopic-boom material spreaders arrive fully assembled at a job site on a tractor trailer. The boom length can vary; the maximum can be as long as 22 feet, while the minimum can be as short as a few inch-

es when the boom is fully retracted.

Hoppers, which are often called spreader heads on telescopic booms, carry the material across the slab and release it. Hopper and spreader head sizes vary from 4 to 8 cubic feet, and are capable of one to four passes depending on material flow rate. The material flow can be adjusted from 2 ounces to 3 pounds per square foot, potentially spreading up to 4,500 square feet of material per hour.

Material flow can be adjusted in a number of ways, depending on the spreader. On many truss spreaders, simply moving a valve on the hopper will increase or decrease material flow. On boom spreaders, a hydraulic control will increase or decrease flow speed. In addition, a manual adjustment gate is usually set before spreading begins. The flow speed is then fine-tuned with the hydraulic control.

At least one material spreader includes a 1-square foot, 1-pound

pan to measure the amount of material coming out of the hopper. The pan is placed on the ground and the hopper passes over it, dropping material onto the pan. The pan is then weighed; anything over 1 pound, the pan's weight, is the weight of material being dropped per square foot.

On telescopic-boom spreaders, the material spreading rate increases or decreases, depending on boom speed; a faster boom speed results in a faster spreading rate, and a lower boom speed results in a lower spreading rate. The boom height can range from a few inches to 14 inches, depending on the slab thickness. The boom cannot be adjusted vertically.

Truss material spreaders have a spreading rate that remains constant. Hopper height is easily adjustable on most material spreaders. In some cases, the hopper height is adjustable to within 2 inches of the form. 