

Equipment for the Waterways of the World



The Worldwide Leader in Concrete Paving Technology

Project Analysis – Because No Two Canal Projects are Alike...

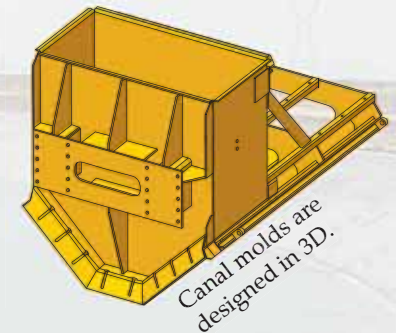
First, our team of concrete paving specialists will study the submitted plans for your waterway project and analyze your equipment needs. This involves top widths, bottom widths, percentage of slope on the walls, is the slope constant throughout the project, top to bottom length of the canal walls, distance of the canals, the number of variations in the profiles, the presence of a haul road and berm, and anticipated concrete supply to the paver. The team will break down the concepts and provide practical recommendations on the choice of slipform concrete paver and mold considerations or paving with a cylinder finisher machine. The project analysis will include the capability to build in versatility to the equipment to accommodate more than one profile. The biggest advantage you have with your GOMACO team is their extensive global experience in canals and waterways.



One of GOMACO's many manufacturing facilities in Ida Grove, Iowa, U.S.A.

Engineering

The GOMACO engineering team is made up of concrete paving professionals with experience in equipment design for almost any waterway imaginable. Their primary design tool is state-of-the-art Pro-Engineer CREO software that provides 3D solid modeling. Your machine and paving mold will be built on screen to your specifications for the manufacturing process. Our investment in engineering is the people who will provide you with a solution through the power of the latest design software available today. This team enjoys the process of taking unique job-site logistics and creating a machine specifically for you that will accomplish the demands of your paving tasks.



Unparalleled Customer Support

Product support is as important to us as a superior product. GOMACO has a team of service representatives who are the undisputed leaders in the world for their experience in the field and concrete paving knowledge. No other company can come close to the total number of days these representatives have logged on concrete paving projects in their careers. GOMACO has a 3D team that is dedicated to the research and development of stringless paving, sales and service of 3D products, and also the setup and training of new 3D startup operations. GOMACO has a controls team that has been responsible for the G+® control system. This team is dedicated to programming the industry's premier control system for concrete paving applications and is responsible for designing unique control applications on our product innovations. Our global distributor network provides GOMACO-trained concrete paving professionals close to most locations around the world.



Highest Standards of Quality and Safety

GOMACO's quality management system is ISO 9001 and our products can be CE certified. Our manufacturing facility leads the concrete paving industry in computerization, robotics, and mechanization to provide precision from concept to finished product. The GOMACO manufacturing team is made up of three generations of personnel who build a product that has a worldwide reputation for quality, versatility, and dependability. Safety is the first consideration in the design process and we go beyond regulations and requirements with your team's well-being in mind.



EG-080901-D11

GOMACO work areas are large enough to accommodate the equipment required for your canal project.

Finite Element Analysis

Finite Element Analysis (FEA) consists of a computer model of the design and materials used which is dynamically loaded and then analyzed for maximum stress to achieve specific results. It is used in new product design and gives us the ability to verify that a proposed structure will be able to perform to your specifications prior to manufacturing.

Commitment to Canals

There is no question about our dedication to equipment needs for the waterways of the world. We have been involved with the largest projects and the most unique projects in the world. We are also proud of our partnership with those involved on smaller projects and providing efforts to make their accomplishments profitable. A testimony to our commitment is the building of a concrete testing pier on our proving grounds to provide the ability to assemble large slope machines for testing.



SL-020805-D15

GOMACO built a concrete testing pier at their facilities to test the canal equipment.

Commitment to Education

More than 17,000 students from around the world have received graduation diplomas from GOMACO University in Ida Grove, Iowa, U.S.A. Special classes have also been held in several countries throughout the world.

GOMACO has designed and conducted courses to better educate and aid equipment owners, operators, mechanics, and distributor service personnel in acquiring the knowledge and skills necessary to successfully operate GOMACO equipment. Classes are composed of informative lectures in the classroom and challenging "hands-on" preventive maintenance training. Study aids, including training and safety manuals and the latest information on product technology, are provided to the students for use in the classroom and on the job.



CY-041205-D3

GOMACO University is committed to educating equipment owners, operators, mechanics and distributor service personnel for successful operation.

All-American Canal

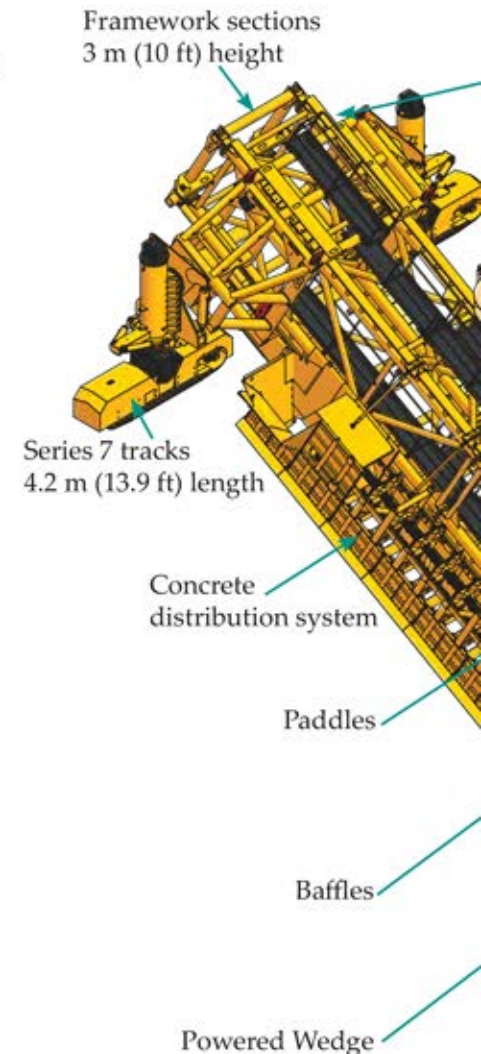
The All-American Canal (located in Southern California, U.S.A.) was a concrete lining project which called for a new 37 kilometer (23 mi) long concrete lined canal to be built parallel to the existing unlined canal. Coffman Specialties paved the 9.7 kilometer (6 mi) long Reach Two and 6.4 kilometer (4 mi) long Reach Three of the project. The proposed lined sections would have slopes of 1.75:1 and 2:1, a bottom width of 15.2 meters (50 ft) and a top width spanning 45.7 meters (150 ft). Slope widths would be variable, between 11.4 meters (37.3 ft) and 14 meters (45.7 ft). The concrete lining itself would be 102 millimeters (4 in) thick.

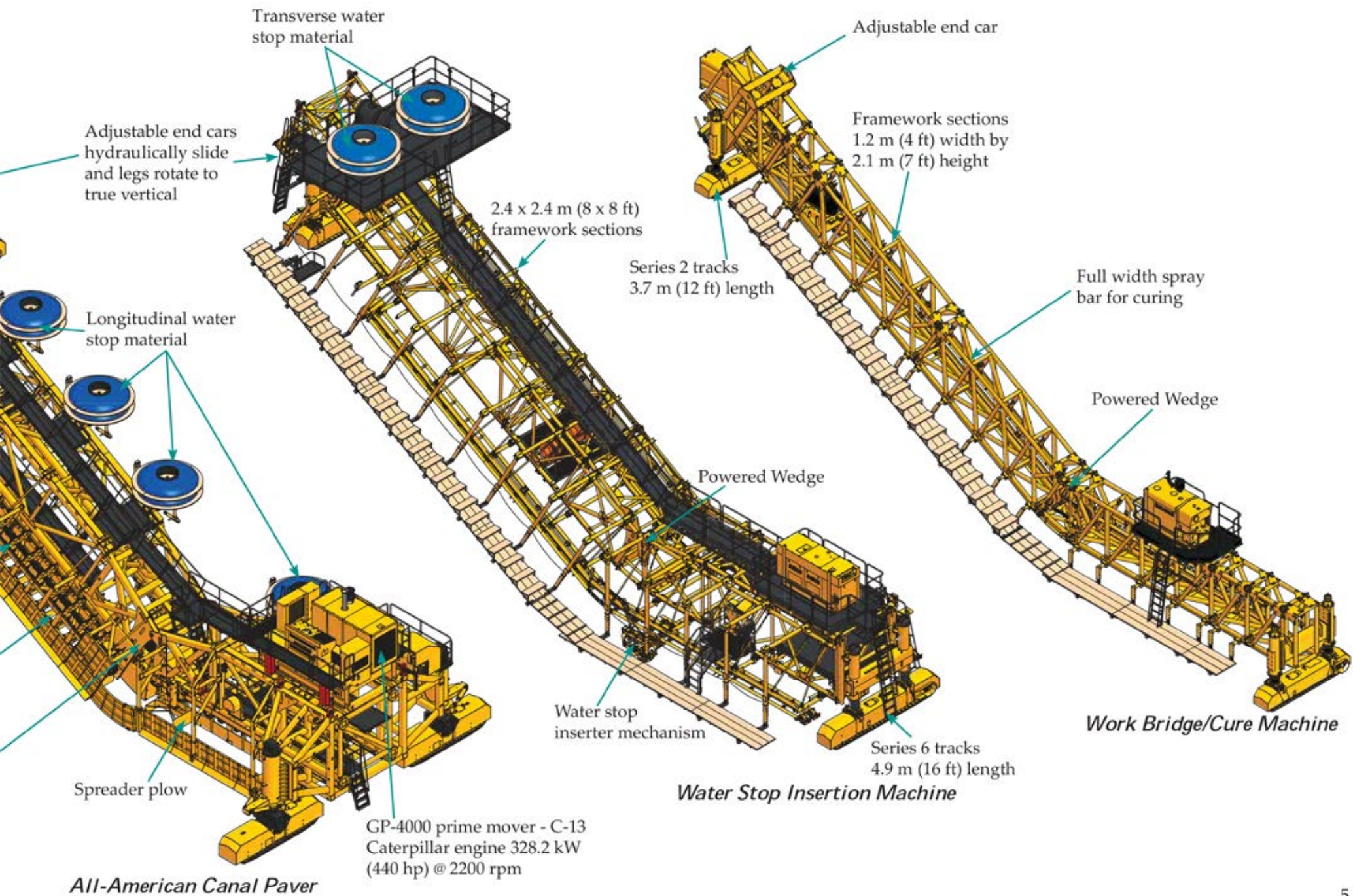
GOMACO created a custom paver, water stop insertion machine, and a work bridge/cure machine. The equipment would have the ability to change its slope as the canal's slope changed. Meetings between Coffman Specialties and GOMACO's sales and engineering staff started even before the bid was submitted for the project. They exchanged ideas, proposed theories, and through it all there was a partnership between the two companies to develop the most versatile equipment possible. The biggest challenge was to create these machines in order to slipform the All-American Canal project and be able to slipform future projects that have different slope angles and widths. The solution was to equip each machine with the exclusive GOMACO **Powered Wedge**, thus allowing the machines to adjust to the canal's different slope angles and help the paver match the grade the trimmer had prepared.

The goal was to create each piece of equipment with the latest technology and engineering to accommodate the requests. The All-American Canal paver uses a **paddle system with baffles**. The paddle system distributes the concrete down the slope of the canal, and the baffles collect the concrete and keep it all from sliding down to the canal floor. If too much concrete does slide to the bottom, the paddles can be reversed to carry it back up the slope. The paver is equipped with four massive spools of blue cross-shaped, polyvinyl chloride (PVC) rubber strips. The water stop material (blue cross-shaped PVC strip) was placed into the concrete by a specially designed inserting mechanism 102 millimeters (4 in) deep, thus creating the longitudinal fracture joints.

The **Water Stop Insertion Machine** followed directly behind the paver inserting the transverse water stop material every 4.6 meters (15 ft). The rubber water stop material was inserted into the wet concrete by a specially-designed inserter mechanism that rides on a rail-mounted carriage. The material was attached to the carriage, and as it moved down the canal wall, it pulled the water stop material off the spool and down the slope. At the bottom of the canal, a worker anchored the material to the canal floor. The carriage, with the inserter mechanism, then moved up the canal wall while vibrating and inserting the water stop material to a job-specific depth and orientation.

The **Work Bridge/Cure Machine** was the third machine in the paving train, and it mirrors the paver and water stop insertion machine in several features in order to match the changing dimensions of the canal. The work bridge gave finishers a platform to work from and was used to cure the finished canal. A curing mechanism was mounted to the back of the work bridge to apply the white curing compound.





All-American Canal



SL-040835-D14

A GOMACO RTP-500 placer fed all of the concrete to the All-American Canal paver for this project.



SL-040824-D2

Portions of the All-American Canal were slipformed at 21.9 meters (72 ft) wide in a single pass.



EG-100631-D8

GOMACO's testing pier in Ida Grove, Iowa, U.S.A., simulates the slope of the canal and allowed engineers to test the different operations of the canal equipment and their many specially-designed features.



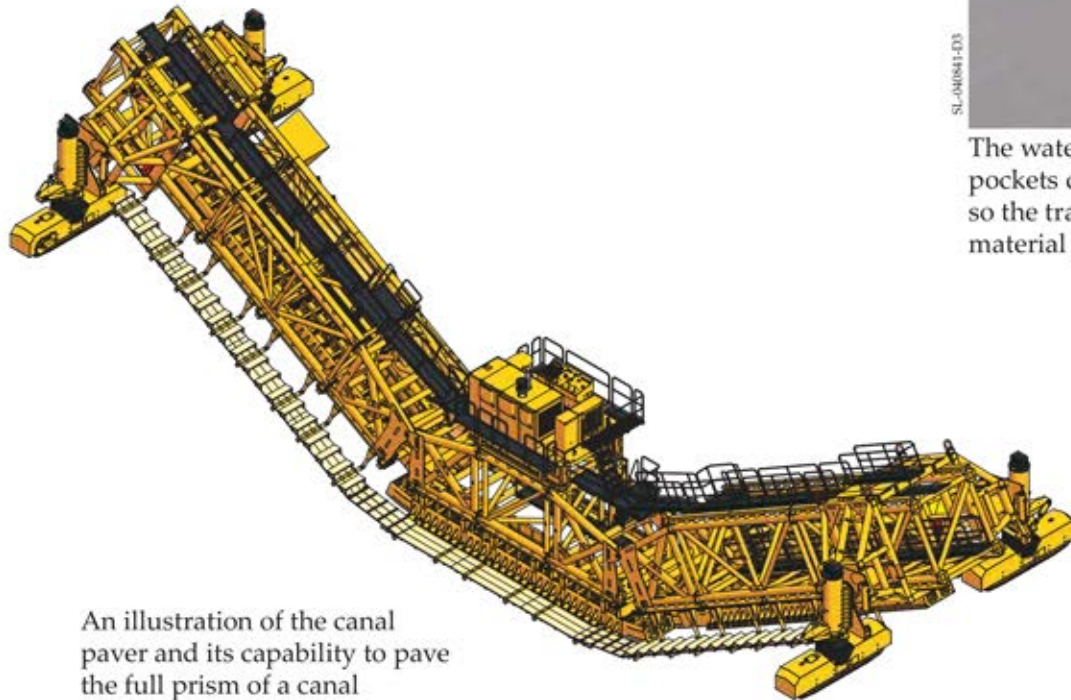
SL-110707-D19

Reels of blue water stop material are mounted to the paver and the material is fed down through brackets into an inserter mechanism mounted in the paving pan. The blue water stop material is being inserted into the concrete from the paver, which is creating the longitudinal joints down the canal.



SL-040841-D3

The water stop insertion machine follows the canal paver. The holes in the concrete are pockets created by workers on the paver notching out pieces of the water stop material, so the transverse water stop material will fit on top of the longitudinal water stop material properly.



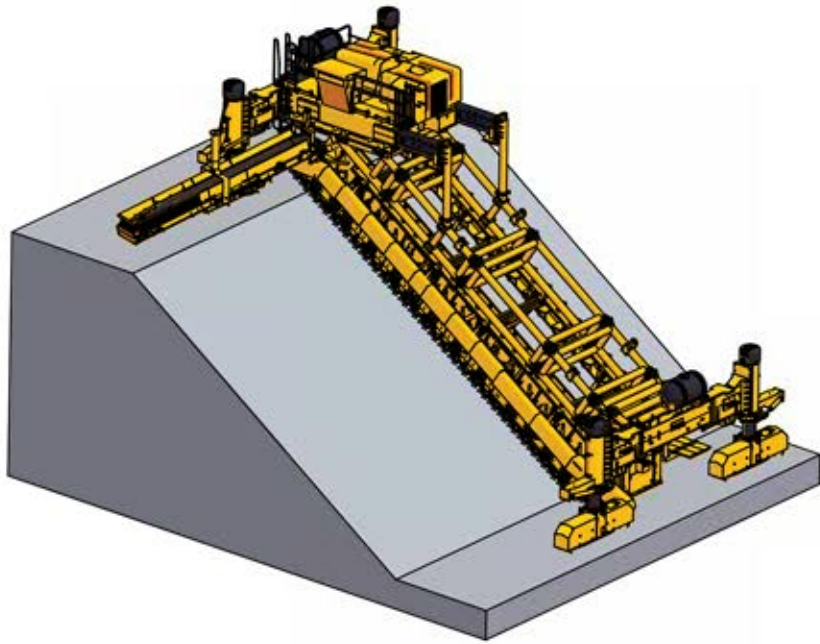
An illustration of the canal paver and its capability to pave the full prism of a canal



SL120706-D10

The specially-designed inserter mechanism rides on a rail-mounted carriage. As the mechanism moves down the canal wall it pulls the water stop material off the spool and down the slope. At the bottom of the canal, a worker anchors the water stop material to the canal floor. The carriage then moves up the canal wall while vibrating and inserting the water stop material to a job-specific depth and orientation.

Slipforming Canals



The sectional mold and front hopper feature different inserts to change the slope length and the depth. A sliding berm cap allows an extra 300 millimeters (11.8 in) of slope length adjustment on this canal in Turkey.



An adjustable berm cap is available on the canal mold. The adjustable berm cap is attached to the pan and can be adjusted by sliding the mechanism up or down and then bolting it into place.



A paver with a front-mounted chain trimmer slipforms a new canal between Amasya and Tasova in northern Turkey in a three-pass process.



HW-1011010-D18

A work bridge has been attached to the back of the paver allowing the crew to finish the concrete around the joints being scored into the side of the slope.



HW-031117-D6



HW-031117-D7

A chain trimmer on the front of the paver fine trims the grade as the canal is simultaneously poured allowing canal paving efficiency.



HW-1011009-D11

Concrete is metered down the slope by an auger. A system of baffles controls the concrete and keeps it from sliding down to the bottom of the canal.



SL-021102-D3

This paver is using 3D machine guidance for slipforming the concrete canal lining.

Canal Paving with GOMACO



The trapezoidal canal mold has the ability to pave a deeper and wider canal by adjusting the berm caps.



CC-089508

The GOMACO paver is referencing stringline from inside the track line for the trapezoidal canal.



CC-08081-D4

This four meter (13 ft) wide, 200 millimeter (8 in) thick canal in Japan was slipformed in two paving passes.



EG-01366-D1

GOMACO engineers use 3D drawings to precisely show how the final product will be assembled during production. This also gives the customer an idea of what their mold or machine will look like before it is finished.



CC-01346-D2

This four-track GOMACO machine slipforms a water drainage channel below grade, around natural liquid gas storage tanks in South Wales.

Various Applications with the Commander III



CG-061105-D1

The Commander III three-track slipforms a V-ditch in India.



CG-061105-D3

The Commander III three-track uses the simultaneous trim/pour method to slipform the V-ditch.



CG-121827-D9

The Commander III three-track paves a slotted drain through the Perthus Tunnel between France and Spain.



CG-080902-D12

The Commander III uses the conveyor for fast delivery of concrete to the hopper, as it paves a waterway in Bulgaria.

Slotted Drains



The Commander III three-track slipforms a slotted drain in England.



A four-track 4400 paves a 500 millimeter (19.7 in) slotted drain in Mauritius.



The Commander III paves a slotted drain and drainage channel in Northern Ireland.

Overview Of A Slope Extension Project



Trimmed material was conveyed to the top of the slope with an on-board conveyor system and discharged on the berm just outside of the stringline.



Two similar GOMACO machines were designed to trim and pave the slope extension in the southwestern United States.

Paving With The GP-4000



The GP-4000 trimmed and poured simultaneously and achieved excellent production results.

The GP-4000 can pave widths up to 15.24 meters (50 ft).



HW-110424-D12

HW-110424-D3

U-Channels



CG-041116-D7

The GOMACO 4400 slipforms a left-side pour U-Channel 508 millimeters (20 in) tall, below grade, and next to an existing road in Mauritius.



CG-051107-D5

The Commander III with a sidemounted mold paves a U-Channel in Brazil.



CG-019504-5A

This four-track GOMACO paver slipforms a U-Channel in France.

Spillways



CL-010301-D1

This GOMACO machine paves a spillway on the San Roque Dam in San Roque, Philippines



CL-080203-D36

An RC Conveyor places the concrete ahead of the cylinder finisher.



CL-060101-#25A

The GOMACO equipment finishes a spillway in Dalyan, Turkey.

Versatility with the SL-450



CL-0202015-42A

The SL-450 paves a drainage channel next to an airport.



GOMACO SL-450



SL-111008-D9

This is a two-pass paving process for a canal in Australia.



SL-091101-D25

This is a three-pass paving process on a canal in Brazil.



SL-059501-D11

The GOMACO finisher is followed by a double work bridge and the center joint is cut on-the-go on this canal in Peru.



SL-059501-D4

The trimmer attachment is used to trim approximately 76 millimeters (3 in) of sandy soil in New Mexico, U.S.A., before paving the canal.



SL-060501-D19

A vibrating finishing cylinder is available to enhance the finish of the concrete on a slope.



SL-060501-D12

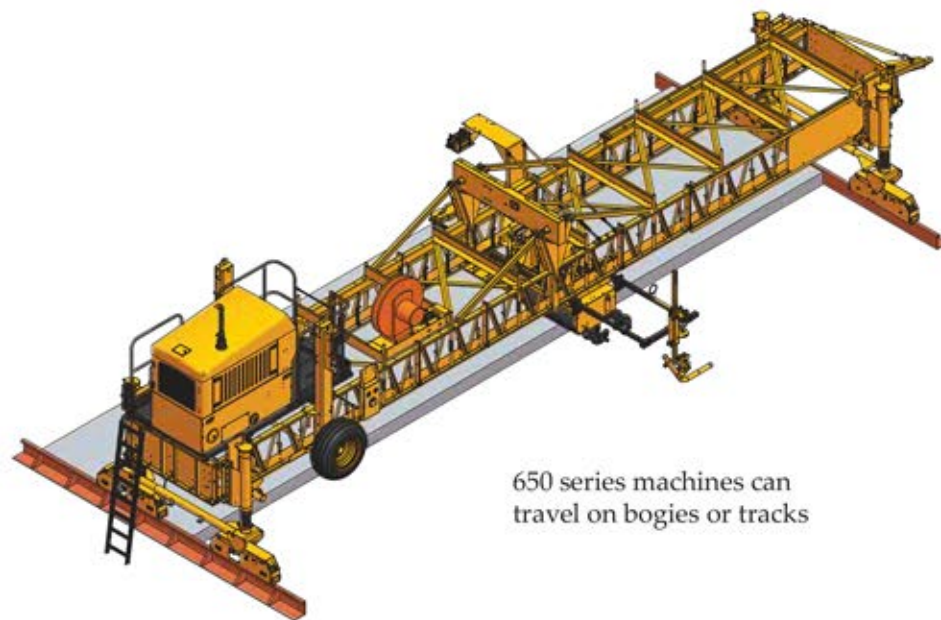
An RC Conveyor places concrete the width of the pour and a Spanit® work bridge follows the finisher.

Multi-Applications using the 650 Series



SL-021003-011

Two GOMACO CP-650s pave the slopes of a large canal in Chile. One CP-650 is being used for concrete finishing and the other is equipped with a compaction roller for the grade. The RC Conveyor on the project is being used for placing both the rock for the grade and the concrete for the canal.



650 series machines can travel on bogies or tracks



CL-080306-D16

This machine is track mounted and guided with stringline on the inside of the tracks line.



CL-000402-014

The CP-650 paves a canal with a trapezoidal profile in one pass in Portugal.



CL-000402-018

The CP-650 finishes a canal that has a slope of 1.5:1 with a bottom width of two meters (6.6 ft).



SL-110901-011

The SL-650-S has a possible frame width of up to 17 meters (56 ft) and the finishing width is 1.5 meters (5 ft) less than the frame width.



GOMACO SL-650

Canal Paving with the SL-750



SL-11007-D17

The SL-750 uses automatic advance which allows the machine to automatically move forward to any pre-set distance at the end of each carriage pass, as it moves along the rails to pave the new canal.



SL-11005-D8

The SL-750 paves a concrete lining on a reservoir in Kazakhstan.



EG-060704-D9

GOMACO employees test an SL-750 on the testing pier at GOMACO facilities in Ida Grove, Iowa, U.S.A.



The SL-750 is available for wider width applications



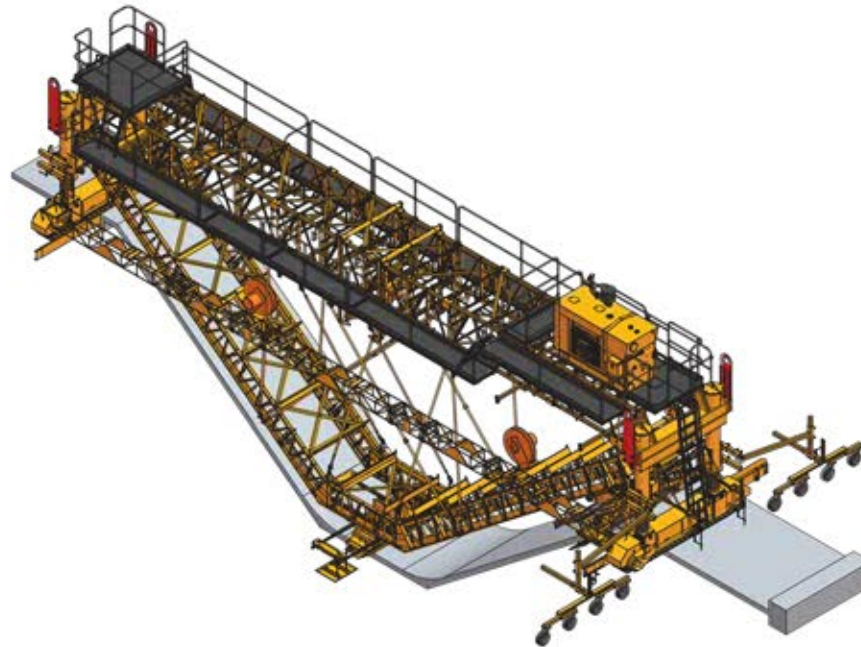
The SL-750 with a 45.1 meter (148 ft) frame is ready to finish the concrete lining on a reservoir in Kazakhstan.

Paving with the CF-790





This GOMACO CF-790 paves a canal in Portugal with in a single pass. The CF-790 canal finisher is specifically designed for finishing wider width canals. Because no two canals are alike, the CF-790 can be custom ordered to fit your exact job specifications. The CF-790 will accommodate slopes from 4:1 to 1:1.



- Variable operating speed up to six meters per minute (19.7 fpm) during paving and a travel speed up to 18.1 meters per minute (59.5 fpm).
- Full walkway system to access the machine from either side and along the main frame.
- Features two, three-point finishing systems, one for each side of the canal.
 - Auger
 - Finishing cylinder
 - Trailing float pan
- Features a welded steel tubular lattice-type upper structure with end car mounted crawler tracks.
- The finishers sub-frame is made up of welded high strength steel lattice panels, with pin-connected sections providing fast setup time.

Unique Design for Ease in Project Mobility and Transportability

The finisher's bottom frame can be partially disassembled and the remaining slope frames along with the finishing carriages can be winched up under the upper structure for ease in moving in and out of canals and for transporting from one project to another. This unique design provides a tremendous savings in time and labor costs.



SL-090410-02

The World's Largest Canal...The Narmada Canal



SL-129102-42-2A

An overview of the Narmada Canal with the GOMACO 700 series as it paved the bottom portions of the canal.

The world's largest canal, the Narmada Canal, and 31 branch canals in western India was lined with concrete by numerous contractors using the GOMACO 700 series slope trimmers and finishers, SL-450 slope trimmers and finishers, RC Conveyors, 6000 walkway Spanit® work bridges, and a CP-650 canal paver. This massive canal project involved a 444 kilometer (276 mi) long main canal, and a network of 31 branch canals which totaled 3000 kilometers (1864 mi) of concrete lining. The 700 series machines were used to finish the greater width bottom sections in multiple passes. RC Conveyors placed the concrete in front of the machines. Deeper boomed conveyors and the larger 6000 walkway Spanit work bridges were incorporated to accommodate the greater slope lengths and match the ability of the 700 series machines.



SL-128001-#12



SL-049101-#30A-31

An overview of the canal with the GOMACO slope trimmers and finishers, RC Conveyors, and work bridges.

Underwater Paving



Technology from GOMACO provided the introduction of narrow ledges that are slipformed into the walls of the Coachella Canal. These footings help to prevent the drowning of wildlife that drink from the canal.

GOMACO's commitment to concrete canal lining involves participation in projects such as this underwater paving concept on the Coachella Canal in southwest California, U.S.A. In 1988, GOMACO Corporation built very specialized equipment for underwater concrete paving of the Coachella Canal. The world's largest paver and trimmer was designed to span the canal's top width of 31.39 meters (103 ft) with a bottom width of 14.63 meters (48 ft) and slopes of 2.5 to 1. The GOMACO trimmer was used to trim the canal to a specific profile while directing water flow away from the trimming operation. The specialized GOMACO paving machine was used to place a geotextile material along with PVC (polyvinyl chloride) and slipform a concrete lining on the bottom and slopes of the canal.



The trimming of the slopes and bottom of the Coachella Canal was required to be done underwater, while doing one slope and half of the bottom with each pass. The trimming and slipforming of the canal were done in two passes to avoid the interruption of the water flow. GOMACO equipment could have slipformed this project in a single pass if the water was not in the canal.

SL-1029/103-#23A-24

Waterways Around The World



A GT-360 slipforms a drainage channel for water to run off the bridge in the United States. The stringline holders have been mounted to the wall, so the GT-360 will follow the wall profile.



CC-01202-D10

CC-01202-D6



The reconfigured All-American Canal work bridge doubles as a paver on a canal in the southwestern parts of the United States. The paving train consists of the canal work bridge (as a paver), water stop insertion machine, and a T/C-600 texture/cure machine.

SL-01301-D10



A Commander III paves a drainage channel in England.

CC-110813-D3



A Commander III slipforms a drainage channel in Northern Ireland.

CC-060914-D1



This slipformed three meter (9.8 ft) wide slab at a 1:2.4 slope is part of a breakwater system in Japan.

CG-120502-D2



A GT-3600 slipforms a water drainage channel.

CG-041224-D1



The All-American Canal paver was reconfigured into a full-prism paver and is slipforming a new canal project in the southwestern United States.

SL-011114-D9



An SL-450 in Japan tests a patented concrete mix, called Permeacon, for ecologically friendly flood control slopes.

SL-010201-D22



A Commander III uses the versatility of the track placement to slipform a drainage canal in Australia.

CG-090716-D14



An SL-450 lines a canal project in China with concrete.

SL-050401-D22



CL-100405-D12

GOMACO's C-750 on a pivot-point finishes the concrete base for water waste treatment tanks in the Netherlands.



CG-021210-D5

A Commander III four-track is equipped with a half-width mold and is paving an eight meter (26.25 ft) slope with a 500 millimeter (19.7 in) base and top cap, on a 1.5:1 slope in Turkey.

GOMACO equipment slipforms a road drainage channel in Mauritius.



CG-041229-D1

Contact us today with your canal specification needs!



The Worldwide Leader in Concrete Paving Technology

Worldwide Headquarters
 GOMACO Corporation
 PO Box 151
 Ida Grove, IA USA 51445
 Ph: 1-712-364-3347
 www.gomaco.com
 E-mail: info@gomaco.com

European Headquarters
 GOMACO International Ltd.
 is located in Witney, England.

GOMACO has a worldwide distributor network for sales and service.

Cover photo: SL-120713-D2

Manufactured under one or more of the following U.S. or foreign patents: 5,190,397; 5,209,602; 5,924,817; 5,941,659; 6,099,204; 6,450,048; 2,211,331; 2,069,516; 7,044,680; 7,284,472; 7,517,171; 7,845,878; 7,850,395; 2,591,177; and patents pending.

GOMACO, Spanit, and G+ are registered trademarks of GOMACO Corporation.

GOMACO Corporation reserves the right to make improvements in design, material, and/or changes in specifications at any time without notice and without incurring any obligation related to such changes. Performance data is based on averages and may vary from machine to machine.

Printed in U.S.A. © 2014 (04 Printco 5000)
 GOMACO Corporation Order #0425-OA10382



GOMACO Corporation's Quality Management System Is ISO 9001:2008 Certified By The American Systems Registrar.

Quality Policy: We Shall Meet Or Exceed Our Customers' Expectations.

