



WACO Environmental Products

WACO Series 1000 Stop Logs and Frames-Sample Specification

General

The fabricated 6061-T6 aluminum stop logs and frames shall be manufactured by WACO Products, Inc., Baltimore, Maryland or equal. Stop logs and frames shall be furnished with all necessary accessories and hardware for a complete installation and shall be the latest standard product of a manufacturer regularly engaged in the production of equipment of this type. All stop logs and frames shall be furnished by the same manufacturer.

Design

Except as otherwise indicated by this specification, all stop logs and frames will be designed and manufactured to meet or exceed all design criteria of AWWA Standard C562, most current edition, defining head and loading calculations, structural strength, deflection requirements, and material specifications including minimum dimensions.

Structural components shall have a minimum design safety factor of 5 with regard to ultimate tensile, compressive, and shear strength and a minimum safety factor of 2 with regard to tensile, compressive, and shear yield strength.

Stop Logs

The stop logs are to be fabricated from minimum 1/4" thickness 6061-T6 aluminum plate and shapes, reinforced as required to meet the engineer's specified design head. Deflection under full design head will be no more than 1/360 of the span width of the gate. Stop logs will be fabricated so that logs will be interchangeable for all channels of

equal width. Log heights will be such that a multiple number of logs shall stack as required to meet the elevation specified. Unequal stop log heights will not be permitted.

Stop logs shall have bottom and face seals as required to meet the leakage requirements specified. Logs shall have face seals mounted for seating head service alone or for both seating and unseating head service as specified. Seals mounted on the frame shall not be permitted. Each stop log shall have integral attachment points for secure engagement with a stop log lifter to be provided by the log manufacturer.

Stop Log Guide Frames

The guide frame is to be fabricated from minimum 1/4" thickness 6061-T6 aluminum extrusions and structural members to resist loads imposed by the design head upon the stop logs and frame. The frame is to be fabricated to accommodate the full height of all logs stacked as required to fully close the channel up to the water elevation as shown in the plans. Additionally, the frame will extend above the top log elevation to the installation floor elevation as required to allow for proper installation and alignment of logs.

Frames will be for embedded installation flush with channel side walls and invert or for surface mounting using anchor bolts. Embedded guide frames shall have a factory applied coating of bituminous paint on all surfaces to be in contact with concrete or grout. Surface mounted frames will be sealed to the wall with frame mounted gaskets or grouted in place after securing with

anchor bolts. Gasket-type guide frames require that Contractor field verify channel dimensions and wall surface conditions for suitability with gasket use prior to start of submittal drawings.

Invert Frames

Invert frames shall be supplied to form a seating surface for the stop logs. Formed concrete seating surfaces shall not be permitted. The invert frame member shall be a one-piece 6061-T6 aluminum extrusion or plate which forms a seating surface for the bottom seal of a stop log. Inverts will be for embedded installation flush with channel bottom or for surface mounting using anchor bolts.

Surface mounted inverts will be sealed to the channel bottom with invert mounted gaskets or grouted in place after securing with anchor bolts. Gasket-type inverts require that Contractor field verify channel dimensions and channel bottom surface conditions for suitability with gasket use prior to start of submittal drawings.

Embedded inverts shall be a flush-bottom design formed by a 6061-T6 aluminum shape welded to the side frames and forming a structural cross-member for the frame. The embedded invert shall be installed so that the seating surface shall be flush with the channel invert in order to maximize flow and prevent fouling. Embedded invert frames shall have a factory applied coating of bituminous paint on all surfaces to be in contact with concrete or grout.

Seals

Stop log seals shall be minimum ¼" thick closed cell type neoprene bonded to the side faces and bottoms of the stop logs. Seal faces shall have a bonded layer of UHMW polyethylene to reduce friction with seating surfaces under head load and during installation of logs in the frames, and to prevent seals from binding with frame during prolonged installations. Seals shall not permanently deform or compress under design head loads. Minimum

seal seating surface width shall be one (1) inch. Stop log width and depth fit tolerances within the frame shall maintain full contact of the seals against the side and invert frame seating surfaces at all times. Seals shall be replaceable without special tools.

Stop Log Lifter

A stop log lifter shall be provided for installation and removal of logs within the stop log frames. Stop log lifter shall be made of fabricated aluminum bars, plates and shapes except for actuation and lifting cables. The lifter shall engage each log securely at the attachment points without need for additional tools. Lifter shall incorporate a guide bar equal to or adjustable to each frame width. Polymer bearing bars shall allow for free and easy entry and removal of lifter in & out of the guide frame, and for gravity engagement to logs within the frame for removal purposes. An actuation cable shall permit disengagement of the lifter after lowering logs into the frame.

Other Features & Materials:

All WACO Products stop logs are made to order from approved drawings and our standard designs can be customized to fit virtually any specific head, mounting, or operating condition. Combinations of frame types (i.e. surface mount invert with embedded sides) are available to suit specific new construction or retrofit requirements. Optional seals for dual seating and unseating heads and optional frame mounted P-seal (J-bulb) type seals are also available for meeting older specifications.

Frames and logs are also available in stainless steel alloys for highly corrosive environments. Call WACO Products Engineering Department for assistance and recommendations on mounting arrangements and material selection.

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