



## TECHNICAL CIRCULAR No. 099 of 31<sup>st</sup> December 2012

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To: All Surveyors/Auditors

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Applicable to flag: All Flags

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Subject: **New PANAMAX vessel requirements**

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Reference: **Panama Canal Authority**

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The Panama Canal Authority (ACP) reminds all customers that vessels arriving at Canal waters, whether for docking or transiting the Panama Canal must comply with vessel requirements. The purpose of this Advisory is to inform the shipping community of the definition and requirements applicable e to all vessels intending to transit the new locks at Panama Canal.

### Definitions;

- Tropical Fresh Water (TFW): Tropical Fresh Water OF Gatun Lake, density 0.9954 tons/m<sup>3</sup> at 29.4 deg. C.(Note; Transition to fresh water frequently alters the trim of large vessels 7.5 to 10 centimeters by the head.)
- Panamax Plus: All vessels with dimensions greater than Panamax or Panamax Plus that comply with the size and draft limitations of the new locks; namely, 366 meters in length by 49 meters in beam by 15.2 meters TFW draft.
- Safe Working Load (SWL): The SWL should not exceed 80 percent of the design load.

### Requirements- New Panamax Locks:

- **Maximum Length:**
- The maximum length overall including bulbous bow for commercial or non-commercial vessels acceptable for regular transit is 366 meters. Vessels transiting the Canal for the first time, whether newly-constructed or newly modified, are subject to inspection and prior review and approval of vessel plans. Vessels without prior approval and /or not in compliance with Canal requirements may experience delays or be denied transit.

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- The maximum length for integrated tug-barge (ITB) combination accepted for regular transit is 366 meters overall, including the tug. A tug-barge combination must transit together as one unit with the tug supplying propeller power.
- The maximum aggregate overall length for non-self-propelled vessels acceptable for transit is 305 meters, including accompanying tugs. Accompanying tugs must lock through with non-self-propelled vessels. One time only transits that exceeds these limitation may be permitted on a case-by-case basis with prior approval of the Transit Operations Division Executive Manager, and subject to requirements listed in Section 2.j(9), of OP's Notice to shipping No. N-1-2012, "Vessel Requirements."
- **Maximum Beam:**
- The maximum beam for commercial or non-commercial vessels and the integrated tug-barge combination acceptable for regular transit is 49 meters, measured at the outer surface of the shell plate, including all protruding structures below the wall of the lock walls.
- The maximum beam for non-self-propelled vessels, other than integrated tug-barge combinations, acceptable for transit is 36.5 meters. One time visit for wider vessels may be permitted with prior approval of the Transit Operations Division Executive Manager, and subject to requirements listed in Section 2.j(9), of OP's Notice to shipping No. N-1-2012, "Vessel Requirements."
- Vessels that carry cargo within 2.5 centimeters or less of the extreme beam must have approved provisions, such as rubbing bands to protect the cargo, should the vessel rest alongside the wall while in the chamber. The maximum beam of 49 meters should not be exceeded by the cargo protection method. This is due to the large number of container vessels designed to load containers virtually to the extreme beam. If the ship lands on the wall in a heeled condition or where the lock wall fenders or miter gate fenders protrude, damage may occur.
- **Maximum Width:**
- Vessels with maximum width exceeding their maximum beam may not transit the Canal without prior review and approval of vessel plans. Vessel not received advance approval and/or not complying with Canal requirements may be denied transit.
- **Protrusions**
- Anything that exceeds beyond a vessel's hull, except for main anchors, shall be considered a protrusion and subject to all applicable regulations and limitations.

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- The ACP is not responsible for damages to protrusions, whether permanent or temporary.
- Vessels with protrusions may be permitted to transit provided that such protrusions will not interfere with the safe transit of the vessel or present a hazard to Canal structures and appurtenances, as determined by the Transit Operations Division Executive Manager. Before transit is permitted, the master of the vessel will be required to complete a form "Undertaking to Release and Indemnity" to exonerate and indemnify the ACP from liability in case of an accident or damages sustained to or as a result of these protrusions.
- Vessels with permanent protrusions must, prior to proceeding to the Canal, furnish detailed information regarding the protrusion(s), including plans, and request authorization for transit. Advance information will minimize the possibility of delay or denial of transit. For detailed information, contact the Transit Operations Division Executive Manager.
- Vessels with protrusions extending beyond the maximum length and beam limitations specified in Section 2.a of the OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," may, on a case-by-case basis, be permitted to transit, provided that approval is obtained in advance from the Transit Operations Division Executive Manager and that those protrusions do not present a hazard or interfere with lock structures, equipment and/or operation, and the master completes a form releasing the ACP from liability. See Section 2.h, of the OP's Notice to Shipping No. N-1-2012, "Vessel Requirements." Protrusions of 4 meters or less will be evaluated based on equipment above the lock walls and inside the lock chambers; i.e., lighting, assisting tugboats and fenders. Protrusions, cargo or extensions beyond the ship's side located 16.24 meters or less above the waterline are not accepted; however, the acceptability criteria for extensions 4 meters beyond the hull and higher than 16.24 meters from the waterline will be reviewed on a case-by-case basis.
- **Draft:**
- The maximum permissible draft for Canal transits has been set at 15.2 meters Tropical Fresh Water (TFW) at a Gatun Lake level of 24.84 meters or higher. Gatun Lake density is 0.9954 tons/m<sup>3</sup> at 29.4 deg. C. This provides a safe navigational margin of at least 1.52 meters over critical elevations in the navigational channels and a clearance over the lock sill of 3.05 meters.
- **Construction, Number, and Location of Chocks and Bitts:**
- The mooring requirements, as stated in OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," will remain unchanged for New Panamax and Panamax Plus vessels. These chocks and bitts will be used by ACP tugs assisting vessels through the new locks, as well as for mooring vessels inside the lock chambers. All chocks shall be double chocks and shall have a throat opening area are less than 900 square centimeters (preferred dimensions are

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335 millimeters x 255 millimeters) and shall be capable of withstanding a SWL OF 100 tons (981kN) from any direction.

- However, the last sentence Section 8.a (12), of the OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," is not applicable for New Panamax vessels since the additional chock installations requested therein are meant for vessels utilizing lock locomotive cable while transiting the Panamax locks.
- In accordance with Section 8.a (20) of the OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," each double chock located at the bow and stern on New Panamax and Panamax Plus vessels shall have two pairs of accompanying heavy bitts with a preferred diameter of 560 millimeters, and each single bitt of each pair shall be capable of withstanding a SWL of 100 tons (981kN). Any other double chock will only require one pair of heavy bitts with each bitt capable of withstanding a SWL of 100 tons (981Kn).
- Vessels with large flared bows, pronounced counters or unusually high freeboards, such as LNG carriers, container vessels or vehicle carriers, will be required to provide closed chocks located further aft than those required in Section 8.a (12) of the OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," for correct positioning of assisting tugs. Vessels may be required to fit recessed tug bollard into the hull in lieu of the single chocks detailed in this paragraph so that tugs can work without coming in contact with the flare or counter and without requiring extra-long lines and/or inefficient leads. See Figure 6, OP's Notice to Shipping No. N-1-2012, "Vessel Requirements."
- The use of existing roller chocks on LNG carriers will be evaluated for approval for transit, upon request, on a case by case basis, provided they are located not less than 16.24 meters above the waterline at the vessel's maximum Panama Canal draft, are in good condition, meet all requirements for closed chocks, as specified above, and are fitted so that the transition from the rollers to the body of the chock prevents damage to the mooring lines. The equivalency of the proposed closed roller chocks shall be submitted for review and acceptance by the ACP.

Vessel not in compliance with OP's Notice to Shipping No. N-1-2012, "Vessel Requirements," or the above-mentioned requirements, will be evaluated in order to determine the conditions, if any, under which they may be allowed to transit or dock. Vessels that require additional resources due to non-compliance of other deficiencies will be assessed the applicable changes.

These requirements are necessary in order to guarantee the readiness of the vessels to transit through the new locks in a safe and efficient manner.

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**REFERENCES:**

AUTORIDAD DEL CANAL DE PANAMA-EXECUTIVE VICE PRESIDENCY FOR OPERATIONS  
NEW PANAMAX VESSEL REQUIREMENTS

**ATTACHMENTS:** No.

Kindest Regards,  
Cosmin Bozenovici  
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