

**Product Evaluation**

Product ID: 8090-4-2  
Initiation Date: July 2006  
Revision Date: September 7, 2011  
Expiry Date: September 2021

**RE: Review of “BEBO” Arch Systems**

**PRODUCT**

The BEBO Arch System is a patented pre-engineered concrete arch structure that is manufactured by various precast plants in Canada as arranged by Armttec and distributed by Armttec throughout Canada.

**VENDOR CLAIMS AND INFORMATION**

**CLAIMS**

BEBO was developed by Dr. Werner Heierlu a Swiss engineer after his post graduate studies at the Massachusetts Institute of Technology in 1961-62.

Over 450 BEBO System Structures have been constructed and are in use in Europe, USA, Australia and south East Asia. Web link for this product: <http://www.beboarch.com>

**DESCRIPTION**

The BEBO Arch System is available in spans up to 31 meters and is usually precast but can also be cast-in-place. The BEBO system includes one or more precast reinforced concrete arch elements placed on prepared piers and abutments and covered with a specified amount of earth fill.

The reinforced concrete arches have a thickness that is sufficient to carry the applied loads, but small enough to allow elastic deformations that mobilizes the passive resistance of the backfill.

**POTENTIAL USAGE**

BEBO Arch Systems are used for bridges over waterways, roads, railroad lines, cut- and – cover tunnels and specialized applications such as parking garages. Shaw pipe of Lantz, Nova Scotia has installed its first BEBO arch structure.

**STANDARDS**

In compliance with AASHTO LRFD and allowable stress design codes.

**ALBERTA TRANSPORTATION COMMENTS**

**ADDITIONAL TECHNICAL REQUIREMENTS**

Suppliers of culvert and bridge structures should be familiar with the design and fabrication processes contained within the design criteria and codes that are applicable to their product. They should also ensure that all technical information, design parameters, materials data, etc for their product that are necessary to meet the design requirements of the manuals are available to the hydrotechnical, structural, fabrication and construction engineers upon request.

Does Ontario have any experience with this type of product? Ontario has a fairly stringent approval process for new structural products. Inform Armttec that we require Ontario's experience with the use of this product.

**EXPERIENCE**

Alberta Infrastructure and Transportation has no experience with this product.

**RECOMMENDATIONS**

BEBO Arch System be listed as a Trial Product under Alberta Transportation Products List, Culverts – Concrete Arches – Proprietary, based on the information provided. Final acceptance as a proven product will be based on field performance.

**TRIAL PROJECTS**

**Near Lake Louise**

Joe Filice

cc New Product Evaluation Standing Committee – Roger Skirrow  
Clive Clarke  
Abdul Waheed