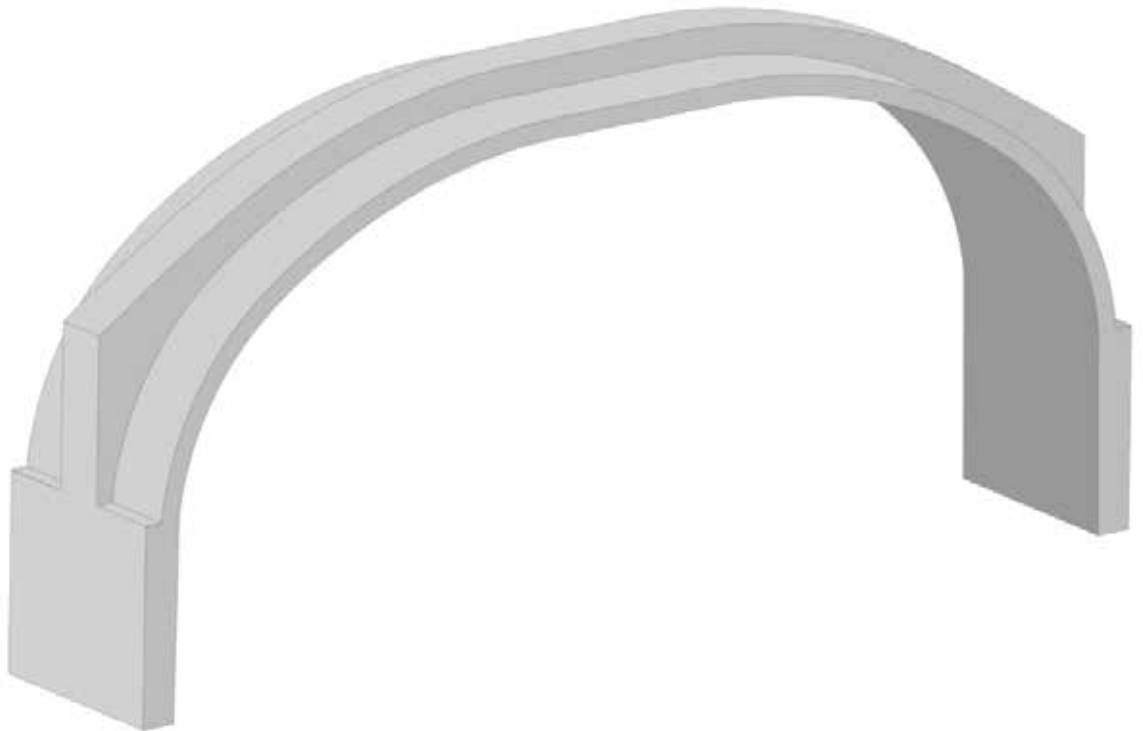


G-CAST[®]



G-CAST RIVO ARCH BRIDGE SYSTEM

PATENT PENDING



CERTIFIED TO ISO 9001:2015

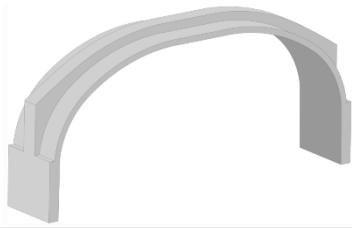


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G-CAST RIVO ARCH BRIDGE SYSTEM is a buried ribbed arch system consisting of multiple units of arch-shaped precast reinforced concrete culverts that are joined together to form complete structures such as bridges and drainage culverts. Precast arch culverts are commonly supported on strip footings with piled foundations.

Applications

Installed in single / multiple spans:

- Pedestrian / Vehicular Underpass
(Bridge / Railway crossing purpose)
- Drainage Culvert
- Utility Tunnels
- Underground Storage Structure
- Combination Application

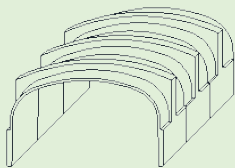


Figure 1 Single Span

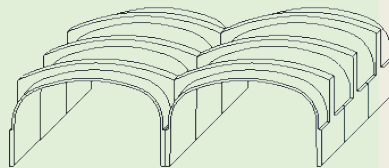


Figure 2 Multiple Spans

Advantages

- Aesthetically Pleasant
- Fast / Ease of Installation
 - Light product weight leads to rapid installation and handling.
- Cost Effective
 - Light weight product leads to less labour required.
 - Maintenance free joints (no expansion joints).
- Wide clear span
 - Increase water flow velocity - free of debris accumulation problems at inlet that impedes flow and causes blockage.
- Superior Strength and Durability
 - High strength concrete is used to provide durable product.
- Quality
 - Products are manufactured under controlled factory environment under ISO 9001 quality management system.

Design Specifications

- Design according to :
 - BS 5400 : PART 2 : 1990
 - BS 8110 : PART 1 : 1997
- Hydrostatic pressure is eliminated by the provision of drainage system at the back of the wall.
- Characteristic Concrete Strength at 28 days : 40 N/mm²
- Concrete cover to reinforcement
 - 50 mm on earth face
 - 40 mm on air face
- Backfill material : sand or suitable soil material subject to engineer's approval
- Soil structure interaction is considered in structural analysis of arch unit.

Handling

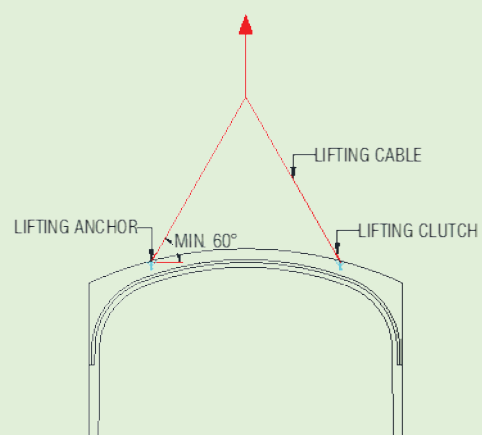
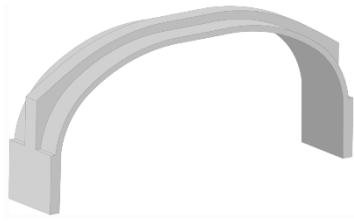


Figure 3

- Lifting anchors, lifting clutches and lifting cables to be used for lifting as shown in figure 3.



G-CAST RIVO ARCH BRIDGE SYSTEM

Product Code	Span W (mm)	Height H (mm)	Standard Length L (mm)	Product Weight (ton)	Section Height h ₁ (mm)	h ₂ (mm)
RAC 6025	6000	2500	1500	6.8	360	700
RAC 6030	6015	3000		7.6		
RAC 6035	6030	3500		8.3		
RAC 6525	6500	2500	1500	7.1	360	700
RAC 6530	6515	3000		7.9		
RAC 6535	6530	3500		8.6		
RAC 7025	7000	2500	1500	7.7	400	750
RAC 7030	7015	3000		8.4		
RAC 7035	7030	3500		9.1		
RAC 7525	7500	2500	1500	8.0	400	750
RAC 7530	7515	3000		8.8		
RAC 7535	7530	3500		9.5		
RAC 8025	8000	2500	1500	9.3	430	900
RAC 8030	8015	3000		10.1		
RAC 8035	8030	3500		10.8		
RAC 8525	8500	2500	1500	9.7	430	900
RAC 8530	8515	3000		10.5		
RAC 8535	8530	3500		11.2		
RAC 9025	9000	2500	1500	10.0	430	900
RAC 9030	9015	3000		10.8		
RAC 9035	9030	3500		11.6		
RAC 9525	9500	2500	1500	11.7	460	1030
RAC 9530	9515	3000		12.7		
RAC 9535	9530	3500		13.7		
RAC 10025	10000	2500	1500	12.1	460	1030
RAC 10030	10015	3000		13.1		
RAC 10035	10030	3500		14.1		
RAC 10525	10500	2500	1500	12.6	460	1030
RAC 10530	10515	3000		13.5		
RAC 10535	10530	3500		14.5		
RAC 11025	11000	2500	1500	14.4	475	1150
RAC 11030	11015	3000		15.6		
RAC 11035	11030	3500		16.8		
RAC 11525	11500	2500	1500	14.9	475	1150
RAC 11530	11515	3000		16.1		
RAC 11535	11530	3500		17.2		
RAC 12025	12000	2500	1500	15.3	475	1150
RAC 12030	12015	3000		16.5		
RAC 12035	12030	3500		17.6		

Strength Class	Fill Height (m)
C2	0.5 (MIN.) - 2.0 (MAX)
C3	3.0 (MAX)
C4	4.0 (MAX)

Customized design for fill height above 4m.

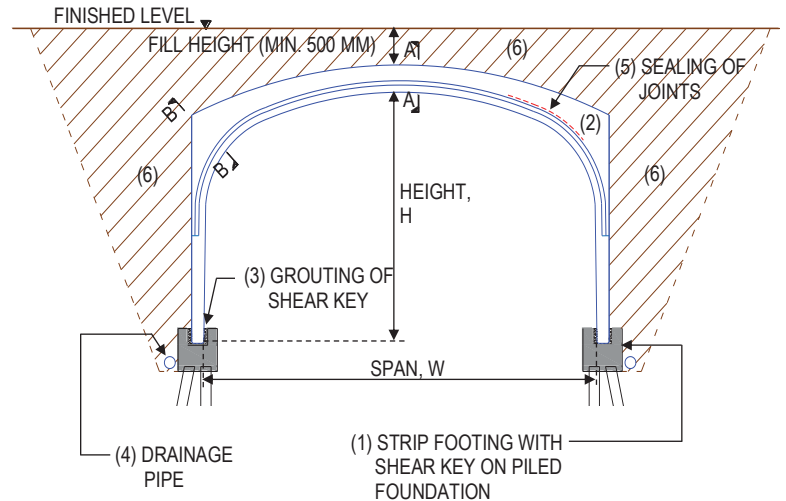
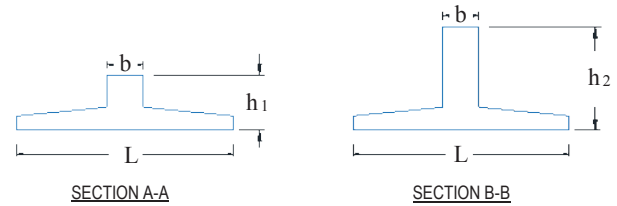


Figure 4



* Width of the rib, dimension "b", varies depend on fill height.

Figure 5

Installation Procedures (Figure 4)

1. Construction of structural foundation (commonly strip footing with "shear key" on piled foundations),
2. Installation of arch units,
3. Grouting of shear key,
4. Installation of drainage pipes along bottom of arch wall,
5. Sealing of joints between arch units, construction of spandrel walls and wing walls,
6. Backfilling with suitable soil materials (subject to engineer approval).

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