



## Glass textile reinforced concrete crash barrier (GTRC CRABS)

-  Steinbeis Centre for Technology Transfer India
-  From India
-  Knowhow and Research output

### Summary of the technology

Glass textile reinforced concrete crash barrier system (GTRC CRABS) is an alternate for conventional reinforced concrete crash barriers with enhanced energy absorption ability. Some of the key features of the technology are:

- Damage to the vehicle and injury to the passengers are likely to be reduced in a vehicle collision.
- Weight per meter of proposed crash barrier is approximately one-third of that of reinforced concrete crash barrier.
- Customizable for target impact resistance and energy absorption
- Robust connection method to maintain the integrity in the event of collision
- Easy to install due to simple connection mechanism



### Technology Benefits Summary, Differentiation & Uniqueness:

- Capable of resisting impact forces and to absorb more energy
- Convenience in transportation, easy to install, replace / repair





- Implementation of GTRC CRABS will lead to safe life for the road users.
- Adaptability for use in narrow space
- Possible to customize for different crash containment level requirements of various countries (design standards)

### **Application & Potential Advantages:**

- GTRC CRABS can be used as temporary barriers in various work zones, in toll plazas for controlling the diverted line of traffic, etc.
- Presently designed for low containment crash barrier applications in India
- Reduced weight compared to conventional RC barrier, increased energy absorption, easy transportation, faster implementation, non-corrosive nature etc. are the potential advantages of the product

### **Development Stage & Development Status Summary:**

A ready to use pre-fabricated glass textile reinforced crash barrier system suitable for low containment (P2) crash barrier application according to IRC:6 (2014) was developed and ready for commercialization on non-exclusive basis. The product can also be used for temporary crash barrier applications.

- GTRC CRABS is a novel product and has scope to customize for application in many countries.

### **Intellectual Property (if any)**

Patent Summary: Indian patent filed- An Apparatus and Method for Production of Precast Textile Reinforced Concrete Crash Barriers; Patent application No: 201811001406 (Provisional filing dt: 12 Jan 2018, full patent filed on 1/1/2019).

### **Technical Details:**

- GTRC CRAB has a new-jersey type geometrical configuration of 70mm top width, 210mm bottom width and 850mm total height.
- Pre-fabricated GTRC CRABS unit consists of cementitious binder and layers of alkali resistant glass textile mesh as reinforcement.
- Effective methodology for connecting the pre-fabricated GTRC CRABS to ground and to the adjacent units.
- Present design of GTRC CRABS meets the low containment (P2 type) crash barrier requirements as per IRC: 6 (2014).

### **Collaboration Description, Terms & Restrictions & Seller Support (technical / training / documentation etc.):**

- Know-how about GTRC CRABS is available with CSIR-SERC.
- Technology transfer will be effected on non-exclusive basis as per relevant CSIR guidelines





applicable from time-to-time.

- Standard documentation on the technology and training support by CSIR-SERC scientists form part of the technology transfer

## Attached documents

- [- Glass textile reinforced concrete crash barrier system.pdf](#)

## Technology Owner



**Steinbeis Centre for Technology Transfer India**  
*Technology Transfer Office from India*

## Related Keywords

Industrial manufacturing, Material and Transport Technologies, material, road safety, material sciences, crash barrier

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