Certification Design Synopsis:

- **Creating certified product solutions to adhere to market requirements.**

South Africa
COTO
Committee of Transport Officials

SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
Reg.No.1998/009584/30
BUILDING SOUTH AFRICA THROUGH BETTER ROADS

The Requirements:

- **…as identified in tender documents:**

Supply of movable barriers manufactured from concrete with an improved safety shape design, example New Jersey, F-shape or single slope. These barriers shall comply with the requirements of either of the following specifications.

- The European specification EN 1317 with containment level H1 for general areas, H2 for areas of limited working with or
- The AASHTO Manual for Assessing Safety Hardware (MASH), Containment level TL4. MASH has superseded NCHRP report 350, and will take precedence, unless specific tests and information have not yet been published by MASH, in such case NCHRP report 350 will be used.
- The American Federal Highways Administration Specification NCHRP Report 350 with containment level TL4.

The Requirements:

- **…as identified in formal publications:**

There are two types of Road Restraint Systems, namely Vehicle Restraint Systems (VRS) and Pedestrian Restrains Systems (PRS)…..

Vehicle restraint systems shall be divided into systems based either on:

1. Method specification timber post systems with elements conforming to SANS 1350 or other SANS compliant material requirements and installation specifications; **or concrete barrier systems detailed in the Contract Documentation**; OR

2. Performance based systems where the installation shall conform to EN 1317 (Parts 1 to 8) and/or AASHTO MASH or NCHRP350 as alternative where no MASH product is available.

The selection of use shall be based on the risk threshold as determined by the designer. Performance based systems criteria shall be specified in the **specifications and measurements** and payment section and the Contractor shall be obligated to provide **a system which is fully compliant.**

The Requirements:

- **…as identified in formal publications:**

Suppliers of Performance Based Systems will be required to obtain, from the foreign testing facility where the product was tested, a ***Type Approval Report and submit it to a SANAS accredited Certification Body for independent verification*** at the cost of the supplier. Once verified, the ***Certification Body will conduct auditing of the product being manufactured***, to ensure that it is the same product as described in the Type Approval Report, which will verify the testing report provided to the Engineer.

The manufacturer of the RRS will be required to issue a limited material defects warranty for a period not less than 12 months.

The entity that is tasked with the installation of the RRS system must be a certified installer ***and certified that the system has been installed in accordance with the manufacturer's installation guidelines*** in order to comply with the crash testing conditions.

The Approach:

The design of the certification model is based on the methodology contained in:

SANS 17021-1:2016 - Conformity assessment- Requirements for bodies providing audit and certification of management systems

- Applicable to "Type Approval Report" – as it is a system applied to the testing of VRS

SANS 17065:2012 - Conformity assessment - Requirements for bodies certifying products, processes and services.

- Applicable to the auditing of the manufacturing process of VRS in accordance with the OEM specification.

CMACS is a SANAS Accredited Certification Body (C75a & C75b)

sanas Product Certification Body

C75a &C75b

The value proposition:

For the client:

- Certification of conformance to requirements.
- Guarantee of system “Type Approval Report” adherence – verified report.
- Guarantee of manufactured product specification adherence to tested system specification.
- Consistency in system quality.
- Audit trail available for reference
- Limited legal liability

For the manufacturer:

- Certification of conformance to requirements.
- Guarantee of manufactured product specification adherence to tested system specification.
- Consistency in system quality due to implemented and verified quality management system.
- Product confidence.
- Audit trail available for reference
- Limited legal liability

The 1st Tier: System / Crash Test Conformance Certification:

- Certification of system compliance to applicable international crash test.
- Obtaining design and manufacturing parameters for each system supplied to the market.
  - Obtaining crash test reports applicable to each of the listed system above.
  - Verifying the crash test facility is an accredited testing facility.
    - By means of a valid accreditation certificate
  - Verifying the accreditation facility is an international recognized facility.
    - By means of validation of affiliation with EA, IAF and ILAC.
  - Appointing an engineer as product specialist based on evidence collected in term of expertise.
  - The engineer will verify compliance, determined by a compliance scope, measuring the compliance of the system with the listing of the design parameters indicated in the crash test report.
  - The engineer will issue a report of compliance.
  - CMA CS will certify the procedure of determining conformity, thus verifying the conformance of the system to the applicable crash test.

- This procedure will be executed once for every system and the crash test applicable to that system.
- It will be valid as long as there is no change in the design parameters of the system.

The 2nd Tier: System Manufacturing Certification:

- Product certification of compliance to the system design parameters.
- Scope to be determined from system design document and could include:
  - Raw/input material handling and identification.
  - Manufacturing equipment maintenance, control, and identification.
  - Reinforcement material compliance to system.
  - Concrete compliance to system. Ready mix SANS 878 certified.
  - Mould dimension verification and preparation.
  - Casting, curing and demolding.
  - System identification and markings.
  - Documenting and record keeping relating to all the above mentioned.
  - Handling of non-Conformities, root cause analysis and corrective/preventative corrections.
  - Client feedback
  - Registers
  - Test and measurement equipment calibration records.
  - External suppliers' verification and control documents.

The 3rd Tier: Installation Conformance as depicted by "Crash Test"

- The functionality of the system and working width as verified by the crash test report can only be achieved when the system is installed according to the method and practices as applicable to the crash test.
- It is of imperative value that the installed system be audited (compliance to the tested system).
- This will be executed by a suitably experienced person – expertise recorded as evidence
- The following will be applicable in terms of the audit:
  - Auditor proof of experience collected - CMA CS Appointment letter available.
  - Verification of availability of summary of crash test report on site.
  - Verification of system installed and available on site.
  - Verification of connector types as per crash test.
  - Verification of installation length as per crash test.
  - Verification of number of blocks and end terminals per installed section as applicable to the crash test.
  - Identification of installed foundation:
    - Asphalt.
    - Concrete.
  - Verification of termination according to foundation type:
    - Asphalt – leaned barriers.
    - Concrete – anchored terminals.
  - Verification of adherence to specification of termination as per OEM instruction or installation manual.

Certification Issued:

- On compliance of all the requirements
  - After clearance of non-conformances if applicable.
- 6 monthly surveillance audits
  - Continuing for the duration of the contract / manufacturing
- Re-Certification on manufacturing process should the plant not product for 3 months or relocate

CMA CERTIFICATION SERVICES (PTY)LTD
SANAS Accredited Certification Body (C7S)

Certification Mark Application Permit

This is to certify that

has been assessed and are authorised to apply the certification mark

CMACS APPROVED

In respect of meeting the requirements of

CMA CS VRS - Concrete Road Barrier tiered certification:
Tier 1: MASH and System accredition and compliance verification,
Tier 2: System (Product) certification,
applicable to: Deltabloc DB 80 F-Shape TL4

This certificate, including the audit pack, forms an integral part of the audit and certification process. Is issued without alteration and is identified by the applicable certification number.

This certificate can be verified by visiting the CMA CS commercial website on - www.cmacertification.co.za.

The validity is subjected to ongoing compliance with applicable specification requirements.

CMA CERTIFICATION SERVICES (PTY) LTD:
28 Oaklane Office Park
Gilippen Road
Bartlett, Boksburg, 1459
Republic of South Africa.
Tel: +27 11 805 6742
E-Mail: marketing@cmsa.org.za
www.cmacertification.co.za

Certification number: CS105
Effective date: 06 December 2022
Expiry date: 06 December 2025
Chief Executive Officer:

Any questions?

Contact Henry Cockcroft for more information:
gm@cma.org.za

Or visit our website:
www.cma.org.za