U.S. Department of Transportation
Federal Highway Administration

1200 New Jersey Ave., SE
Washington, D.C. 20590

October 1, 2025

In Reply Refer To:
HSST-1/B-380

Mathias Redlberger
REBLOC GmbH
Ziegelofen-Straβe 736
3571 Gars am Kamp
Austria

Dear Mr. Redlberger:

We received your initial correspondence on November 22, 2023, requesting issuance of a Federal-aid reimbursement eligibility letter under the Federal-aid highway program for the roadside safety system, device, design, product, or hardware (collectively "device") described below. On July 18, 2024, we received a complete set of files needed to complete our review. We write to inform you that the device REBLOC 80F_8 TL-4 is eligible for Federal-aid reimbursement. This letter is assigned Federal Highway Administration (FHWA) control number B-380.

ELIGIBILITY LETTERS

The FHWA issues Federal-aid reimbursement eligibility letters for new roadside safety devices that are crash tested in accordance with the industry standard of the American Association of State Highway and Transportation Officials (AASHTO) Manual for Assessing Safety Hardware (MASH).

FHWA, the Department of Transportation, and the United States (government) do not regulate roadside safety devices, crash test facilities, or the manufacturing industry. Issuance of eligibility letters is discretionary and provided only as a service to the states. FHWA may, at its discretion, decline to issue, revise, or rescind an eligibility letter. Eligibility letters are only issued by the FHWA headquarters Office of Safety.

Eligibility letters are issued only as notice to the states that a device is eligible for reimbursement under the Federal-aid highway program. They do not establish approval or certification for any other purpose. Issuance of an eligibility letter is not a prerequisite or requirement for state transportation agencies seeking to use Federal-aid funds for roadside safety devices. State agencies may use a device for which an eligibility letter has not been issued and seek Federal-aid reimbursement.

FEDERAL-AID REIMBURSEMENT

The request for issuance of this letter certified the device was crash tested in accordance with the industry standard of AASHTO's MASH. This eligibility letter is based on that certification and

the material offered in support of its issuance. The device described below is eligible for reimbursement under the Federal-aid highway program.

Name of system: REBLOC 80F_8 TL-4
Type of system: Longitudinal Barrier
Test Level: Test Level 4
Testing conducted by: Crashtest-service.com GMBH
Date of request: November 22, 2023

Information about the device, including material such as the eligibility request, crash test reports, drawings, or images are included in one or more attachment(s) to this letter.

Eligibility letter B-380 is inapplicable to devices, optional equipment, alternate materials, or other features that were not crash tested in accordance with AASHTO's MASH.

This letter is issued only for the subject device as crash tested under AASHTO's MASH. Later modification(s) of the device are not eligible for Federal-aid reimbursement under this letter. Notice of later modification(s) should be given to transportation agencies, facility owners, and operators (collectively "agencies").

Agencies should be provided appropriate information about the device's design, installation, maintenance, materials, and mechanical properties.

Issuance of this letter is discretionary, and it may be revised or rescinded at FHWA's discretion. This letter is not a determination of compliance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) or ownership of any intellectual property rights.

This eligibility letter is not a determination by the government that a crash involving the subject device will result in any particular outcome. It is limited to only the device's eligibility for Federal-aid reimbursement.

INTELLECTUAL PROPERTY

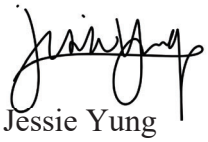
Issuance of this eligibility letter does not convey property rights of any sort nor any exclusive privilege. This letter is not authorization or consent by the government for the use, manufacture, or sale of any patented or proprietary system, device, design, product, or hardware for which the requester is not the patent owner. Eligibility letters are not an expression of any view, position, or determination by the government as to the validity, scope, or ownership of any intellectual property rights to a specific device. These letters do not grant, impute, suggest, or otherwise establish any ownership, distribution, or licensing rights to the requester. The government expresses no opinion about the intellectual property rights relating to any device for which this or any other eligibility letter is issued.

PUBLIC DISCLOSURE

To prevent any misunderstanding, and as discussed above, this Federal-aid eligibility letter is assigned FHWA control number B-380. It should only be reproduced in full with its attachment(s). This Federal-aid eligibility letter and the material offered by the requester supporting its issuance is public information. All eligibility letters and supporting material are subject to public disclosure under the Freedom of Information Act (FOIA). Eligibility letters are available to the public at https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/.

If you have any questions please contact Paul LaFleur at Paul.LaFleur@dot.gov.

Sincerely,



Jessie Yung
Director, Office of Safety Technologies
Office of Safety

Enclosures

Request for Federal Aid Reimbursement Eligibility of Highway Safety Hardware

Submitter	Date of Request:	November 08,2023	◉ New ○ Resubmission
	Name:	Mathias Redlberger	
	Company:	REBLOC	
	Address:	Ziegelofen-Straße 736, 3571 Gars am Kamp	
	Country:	Austria	
	To:	Michael S. Griffith, Director FHWA, Office of Safety Technologies	

I request the following devices be considered eligible for reimbursement under the Federal-aid highway program.

Device & Testing Criterion - Enter from right to left starting with Test Level

!-!-!

System Type	Submission Type	Device Name / Variant	Testing Criterion	Test Level
'B': Rigid/Semi-Rigid Barriers (Roadside, Median, Bridge Railings)	◉ Physical Crash Testing ○ Engineering Analysis	REBLOC 80F_8	AASHTO MASH	TL4

By submitting this request for review and evaluation by the Federal Highway Administration, I certify that the product(s) was (were) tested in conformity with the AASHTO Manual for Assessing Safety Hardware and that the evaluation results meet the appropriate evaluation criteria in the MASH.

Individual or Organization responsible for the product:

Contact Name:	Mathias Redlberger	Same as Submitter ☒
Company Name:	REBLOC	Same as Submitter ☒
Address:	Ziegelofen-Straße 736, 3571 Gars am Kamp	Same as Submitter ☒
Country:	Austria	Same as Submitter ☒

Enter below all disclosures of financial interests as required by the FHWA `Federal-Aid Reimbursement Eligibility Process for Safety Hardware Devices' document.

Crashtest-service.com GmbH (CTS) was contracted by REBLOC GmbH to perform full-scale testing of the REBLOC 80F_8 barrier. There are no shared financial interests in the REBLOC 80F_8 barrier by CTS, or between REBLOC GmbH and CTS, other than costs involved in the actual crash tests and reports for this submission to FHWA.

PRODUCT DESCRIPTION

(●) New Hardware or Significant Modification ( ) Modification to Existing Hardware

The longitudinal barrier REBLOC 80F_8 consists of precast concrete elements. Each element is 8.0m (315 in) long, 0.5m (19.7 in) wide and 0.8m (31.5 in) high. The elements are connected on-site utilizing steel couplings protruding from each element. The first and the last element of the continuous installation length must be anchored to the asphalt surface using four screw bolts. Due to the symmetrical F-shape design it can be used for single-sided and double-sided application.

CRASH TESTING

By signature below, the Engineer affiliated with the testing laboratory, agrees in support of this submission that all of the critical and relevant crash tests for this device listed above were conducted to meet the MASH test criteria. The Engineer has determined that no other crash tests are necessary to determine the device meets the MASH criteria.

Engineer Name:	Dipl.-Ing. Ralf Buehrmann	
Engineer Signature:	Dipl.-Ing. Ralf Bührmann 2023.11.09 11:22:43 +01'00'	
Address:	Amelunxenstraße 30, 48167 Muenster	Same as Submitter ☐
Country:	Germany	Same as Submitter ☐

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
4-10 (1100C)	CTS test no.: 19984 Test report no.: 12184-4529-19984-EN performed 29-JUN-2023 by crashtest-service.com GmbH (Germany) The longitudinal concrete barrier contained and redirected the 1100C vehicle. The vehicle did not penetrate, underride or override the installation. Maximum dynamic deflection during the test was 0.44 m (17.3 in). No significant parts separated neither from the vehicle nor the barrier. The occupant compartment deformation did not exceed limits. No penetration occurred. The vehicle remained upright during and after the impact.	PASS

Required Test Number	Narrative Description	Evaluation Results
4-11 (2270P)	CTS test no.: 19985 Test report no.: 12184-4529-19985-EN performed 29-JUN-2023 by crashtest-service.com GmbH (Germany) The longitudinal concrete barrier contained and redirected the 2270P vehicle. The vehicle did not penetrate, underride or override the installation. Maximum dynamic deflection during the test was 0.90 m (35.4 in). No significant parts separated neither from the vehicle nor the barrier. The occupant compartment deformation did not exceed limits. No penetration occurred. The vehicle remained upright during and after the impact.	PASS
4-12 (10000S)	CTS test no.: 19983 Test report no.: 12184-4529-19983-EN performed 27-JUN-2023 by crashtest-service.com GmbH (Germany) The longitudinal concrete barrier contained and redirected the 10000S test vehicle. The vehicle did not penetrate, underride or override the installation. Maximum dynamic deflection during the test was 1.53 m (60.2 in). No significant parts separated neither from the vehicle nor the barrier. Some detached concrete fragments in the area of impact. No occupant compartment deformation or intrusion occurred. The vehicle remained upright during and after the impact.	PASS
4-20 (1100C)	./.	Non-Relevant Test, not conducted
4-21 (2270P)	./.	Non-Relevant Test, not conducted
4-22 (10000S)	./.	Non-Relevant Test, not conducted

Full Scale Crash Testing was done in compliance with MASH by the following accredited crash test laboratory (cite the laboratory's accreditation status as noted in the crash test reports.):

Laboratory Name:	crashtest-service.com GmbH	
Laboratory Signature:	Dipl.-Ing. Ralf Bührmann 2023.11.09 11:22:28 +01'00'	
Address:	Amelunxenstraße 30, 48167 Muenster	Same as Submitter ☐
Country:	Germany	Same as Submitter ☐
Accreditation Certificate Number and Dates of current Accreditation period :	D-PL-17359-01 valid from: 10-FEB-2021	

Submitter Signature*:

Submit Form

ATTACHMENTS

Attach to this form:

1) Additional disclosures of related financial interest as indicated above.
2) A copy of the full test report, video, and a Test Data Summary Sheet for each test conducted in support of this request.
3) A drawing or drawings of the device(s) that conform to the Task Force-13 Drawing Specifications [Hardware Guide Drawing Standards]. For proprietary products, a single isometric line drawing is usually acceptable to illustrate the product, with detailed specifications, intended use, and contact information provided on the reverse. Additional drawings (not in TF-13 format) showing details that are relevant to understanding the dimensions and performance of the device should also be submitted to facilitate our review.

FHWA Official Business Only:

Eligibility Letter		
Number	Date	Key Words

1. Sequential Photographs

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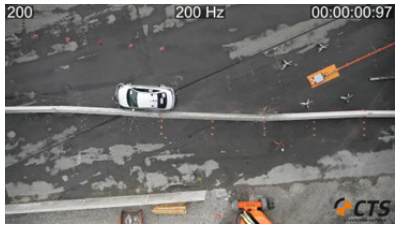

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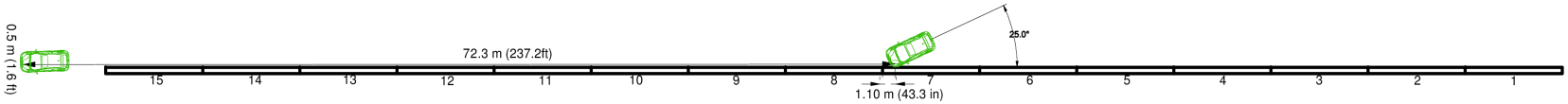
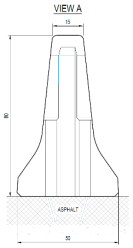
2. Plan View



3. Cross-Sectional View



4. General Information	
Test Agency	crashtest-service.com GmbH (CTS)
Test Standard	MASH Test TL3-10
CTS-Test No	19984
Date	29-JUN-2023
5. Test Article	
Type	Precast Concrete Barrier
Name	“REBLOC 80F_8“
Installation Length	120 m (393.7 ft)
Key Elements - Barrier	Length: 8.00 m (26.2 ft) Height: 0.80 m (31.5 in) Base Width: 0.50 m (19.7 in)
6. Soil Type and Condition	
Type of Soil	Asphalt
Soil Strength	---
Condition	cloudy, rainy, 25.1 °C (77.2 °F)
7. Test Vehicle	
Type/Designation	1100C
Make and Model	Kia Rio IV, MY2020
Curb	1126kg (2482 lb)
Test Inertial	1100kg (2426 lb)
Dummy	75 kg (165 lb)
Gross Static	1175kg (2591 lb)

8. Impact Conditions	
Speed	100.5 km/h (62.4 mph)
Angle	25.0°
Location/Orientation	1.10 m (43.3 in) Before transition of 7/8
9. Exit Conditions	
Speed	79.6 km/h (49.5 mph)
Angle	0.5°
10. Post-Impact Trajectory	
Vehicle Stability	Satisfactory
Stopping Distance	72.3 m (237.2 ft) downstream of the impact point
	-0.5 m (-1.6 ft) laterally behind the test article
Vehicle Snagging	No
Vehicle Pocketing	No
Maximum roll angle	-19.77°
Maximum pitch angle	-7.37°
11. Occupant Risk	
Impact Velocity	
Longitudinal	5.38 m/s (17.7 ft/s)
Lateral	6.98 m/s (22.9 ft/s)
Ridedown Accelerations (10 msec avg.)	
Longitudinal	2.30 g
Lateral	14.48 g

THIV	8.05 m/s (26.4 ft/s)
PHD	26.91 g
ASI	1.89
12. Test Article Damage	
Classification	Moderate
Particularities	None
13. Test Article Deflections	
Dynamic Deflection	0.44 m (17.3 in)
Permanent Deflection	0.44 m (17.3 in)
Dynamic Working Width	0.94 m (37.0 in)
Height of Working Width	0.00 m (0.0 in)
14. Vehicle Damage	
Classification	Moderate
VDS	11-LFQ-5
CDC	11FDEW4
Max. Exterior Deformation	89 mm (3.5 in)
Location of max. exterior Deformation	Front left side bumper
Max. Interior Deformation	9 mm (0.4 in)
Location of max. interior Deformation	Front left foot well
OCDI	ND0000000

1. Sequential Photographs

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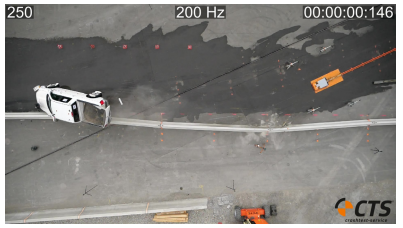

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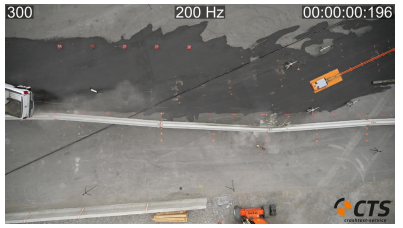

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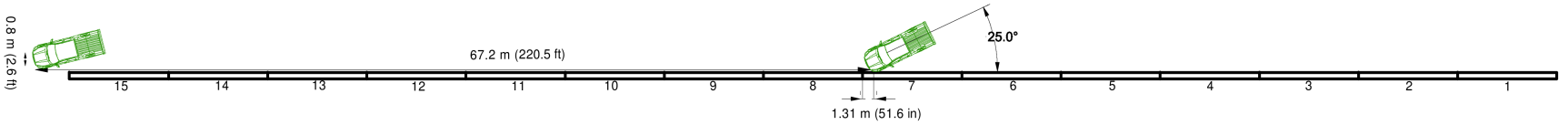
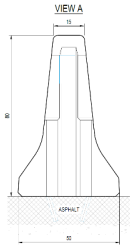
2. Plan View



3. Cross-Sectional View



4. General Information	
Test Agency	crashtest-service.com GmbH (CTS)
Test Standard	MASH Test TL3-11
CTS-Test No	19985
Date	29-JUN-2023
5. Test Article	
Type	Precast Concrete Barrier
Name	“REBLOC 80F_8“
Installation Length	120 m (393.7 ft)
Key Elements - Barrier	Length: 8.00 m (26.2 ft) Height: 0.80 m (31.5 in) Base Width: 0.50 m (19.7 in)
6. Soil Type and Condition	
Type of Soil	Asphalt
Soil Strength	---
Condition	cloudy, dry, 22.2 °C (72.0 °F)
7. Test Vehicle	
Type/Designation	2270P
Make and Model	Dodge Ram 1500 IV, MY2017
Curb	2346 kg (5172 lb)
Test Inertial	2240 kg (4938 lb)
Dummy	--- kg (--- lb)
Gross Static	2240 kg (4938 lb)

8. Impact Conditions	
Speed	102.3 km/h (63.6 mph)
Angle	25.0°
Location/Orientation	1.31 m (51.6 in) Before transition of 7/8
9. Exit Conditions	
Speed	84.0 km/h (52.2 mph)
Angle	15.0°
10. Post-Impact Trajectory	
Vehicle Stability	Satisfactory
Stopping Distance	67.2 m (220.5 ft) downstream of the impact point
	0.8 m (2.6 ft) laterally in front the test article
Vehicle Snagging	No
Vehicle Pocketing	No
Maximum roll angle	-35.80°
Maximum pitch angle	-16.70°
11. Occupant Risk	
Impact Velocity	
Longitudinal	4.63 m/s (15.2 ft/s)
Lateral	6.35 m/s (20.8 ft/s)
Ridedown Accelerations (10 msec avg.)	
Longitudinal	3.40 g
Lateral	8.27 g

THIV	7.79 m/s (25.6 ft/s)
PHD	16.21 g
ASI	1.25
12. Test Article Damage	
Classification	Moderate
Particularities	None
13. Test Article Deflections	
Dynamic Deflection	0.90 m (35.4 in)
Permanent Deflection	0.89 m (35.0 in)
Dynamic Working Width	1.40 m (55.1 in)
Height of Working Width	0.00 m (0.0 in)
14. Vehicle Damage	
Classification	Moderate
VDS	11-LFQ-5
CDC	11FDEW4
Max. Exterior Deformation	197 mm (7.8 in)
Location of max. exterior Deformation	Rear left door
Max. Interior Deformation	33 mm (1.3 in)
Location of max. interior Deformation	Front left foot well
OCDI	ND0000000

Summary 12184-4529-19984-2-EN, 24-FEB-2025 (Date of Summary)

1. Sequential Photographs

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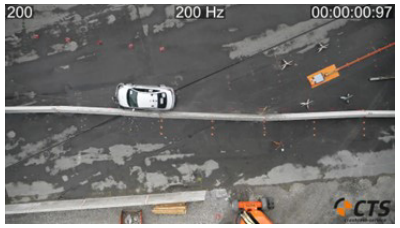

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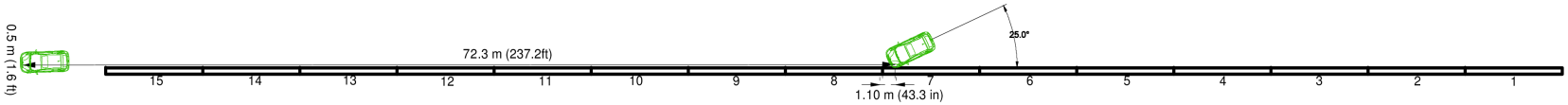
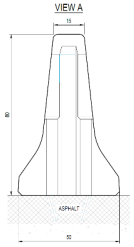
2. Plan View



3. Cross-Sectional View



4. General Information	
Test Agency	crashtest-service.com GmbH (CTS)
Test Standard	MASH Test TL4-10
CTS-Test No	19984
Date	29-JUN-2023
5. Test Article	
Type	Precast Concrete Barrier
Name	“REBLOC 80F_8“
Installation Length	120 m (393.7 ft)
Key Elements - Barrier	Length: 8.00 m (26.2 ft) Height: 0.80 m (31.5 in) Base Width: 0.50 m (19.7 in)
6. Soil Type and Condition	
Type of Soil	Asphalt
Soil Strength	---
Condition	cloudy, rainy, 25.1 °C (77.2 °F)
7. Test Vehicle	
Type/Designation	1100C
Make and Model	Kia Rio IV, MY2020
Curb	1126kg (2482 lb)
Test Inertial	1100kg (2426 lb)
Dummy	75 kg (165 lb)
Gross Static	1175kg (2591 lb)

8. Impact Conditions	
Speed	100.5 km/h (62.4 mph)
Angle	25.0°
Location/Orientation	1.10 m (43.3 in) before transition of 7/8
9. Exit Conditions	
Speed	79.6 km/h (49.5 mph)
Angle	5°
10. Post-Impact Trajectory	
Vehicle Stability	Satisfactory
Stopping Distance	72.3 m (237.2 ft) downstream of the impact point
	-0.5 m (-1.6 ft) laterally behind the test article
Vehicle Snagging	No
Vehicle Pocketing	No
Maximum roll angle	-19.77°
Maximum pitch angle	-7.37°
11. Occupant Risk	
OIV - Impact Velocity	
Longitudinal	5.38 m/s (17.7 ft/s)
Lateral	6.98 m/s (22.9 ft/s)

ORA - Ridedown Accelerations (10 msec avg.)	
Longitudinal	2.30 g
Lateral	14.48 g
THIV	8.05 m/s (26.4 ft/s)
PHD	26.91 g
ASI	1.89
12. Test Article Damage	
Classification	Moderate
Particularities	None
13. Test Article Deflections	
Dynamic Deflection	0.44 m (17.3 in)
Permanent Deflection	0.44 m (17.3 in)
Dynamic Working Width	0.94 m (37.0 in)
Height of Working Width	0.00 m (0.0 in)
14. Vehicle Damage	
Classification	Moderate
VDS	11-LFQ-5
CDC	11FDEW4
OCDI	ND0000000
Max. Exterior Deformation	89 mm (3.5 in)
Location of max. exterior Deformation	Front left side bumper
Max. Interior Deformation	9 mm (0.4 in)
Location of max. interior Deformation	Front left foot well

Summary 12184-4529-19985-2-EN, 24-FEB-2025 (Date of Summary)

1. Sequential Photographs

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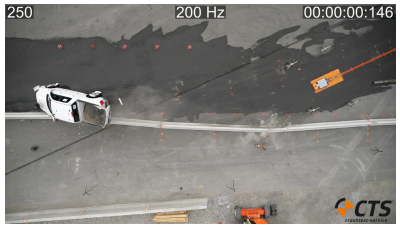

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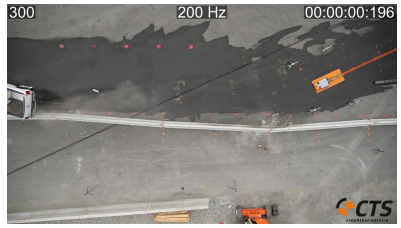

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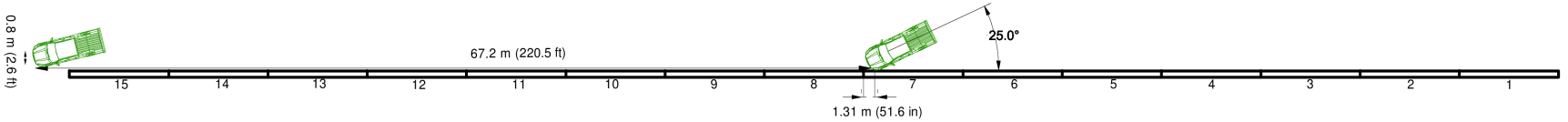
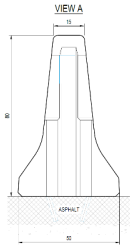
2. Plan View



3. Cross-Sectional View



4. General Information	
Test Agency	crashtest-service.com GmbH (CTS)
Test Standard	MASH Test TL4-11
CTS-Test No	19985
Date	29-JUN-2023
5. Test Article	
Type	Precast Concrete Barrier
Name	“REBLOC 80F_8“
Installation Length	120 m (393.7 ft)
Key Elements - Barrier	Length: 8.00 m (26.2 ft) Height: 0.80 m (31.5 in) Base Width: 0.50 m (19.7 in)
6. Soil Type and Condition	
Type of Soil	Asphalt
Soil Strength	---
Condition	cloudy, dry, 22.2 °C (72.0 °F)
7. Test Vehicle	
Type/Designation	2270P
Make and Model	Dodge Ram 1500 IV, MY2017
Curb	2346 kg (5172 lb)
Test Inertial	2240 kg (4938 lb)
Dummy	No dummy
Gross Static	2240 kg (4938 lb)

8. Impact Conditions	
Speed	102.3 km/h (63.6 mph)
Angle	25.0°
Location/Orientation	1.31 m (51.6 in) before transition of 7/8
9. Exit Conditions	
Speed	84.0 km/h (52.2 mph)
Angle	15.0°
10. Post-Impact Trajectory	
Vehicle Stability	Satisfactory
Stopping Distance	67.2 m (220.5 ft) downstream of the impact point
	0.8 m (2.6 ft) laterally in front the test article
Vehicle Snagging	No
Vehicle Pocketing	No
Maximum roll angle	-35.80°
Maximum pitch angle	-16.70°
11. Occupant Risk	
OIV - Impact Velocity	
Longitudinal	4.63 m/s (15.2 ft/s)
Lateral	6.35 m/s (20.8 ft/s)

ORA - Ridedown Accelerations (10 msec avg.)	
Longitudinal	3.40 g
Lateral	8.27 g
THIV	7.79 m/s (25.6 ft/s)
PHD	16.21 g
ASI	1.25
12. Test Article Damage	
Classification	Moderate
Particularities	None
13. Test Article Deflections	
Dynamic Deflection	0.90 m (35.4 in)
Permanent Deflection	0.89 m (35.0 in)
Dynamic Working Width	1.40 m (55.1 in)
Height of Working Width	0.00 m (0.0 in)
14. Vehicle Damage	
Classification	Moderate
VDS	11-LFQ-5
CDC	11FDEW4
OCDI	ND0000000
Max. Exterior Deformation	197 mm (7.8 in)
Location of max. exterior Deformation	Rear left door
Max. Interior Deformation	33 mm (1.3 in)
Location of max. interior Deformation	Front left foot well

Summary 12184-4529-19983-2-EN, 24-FEB-2025 (Date of Summary)

1. Sequential Photographs

0.050 s

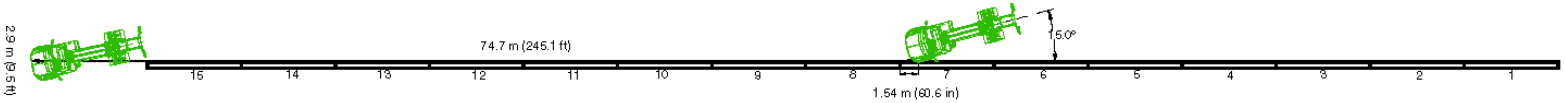
0.325 s

0.600 s

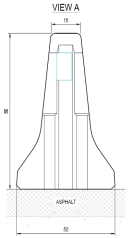
0.875 s

1.150 s

2. Plan View



3. Cross-Sectional View



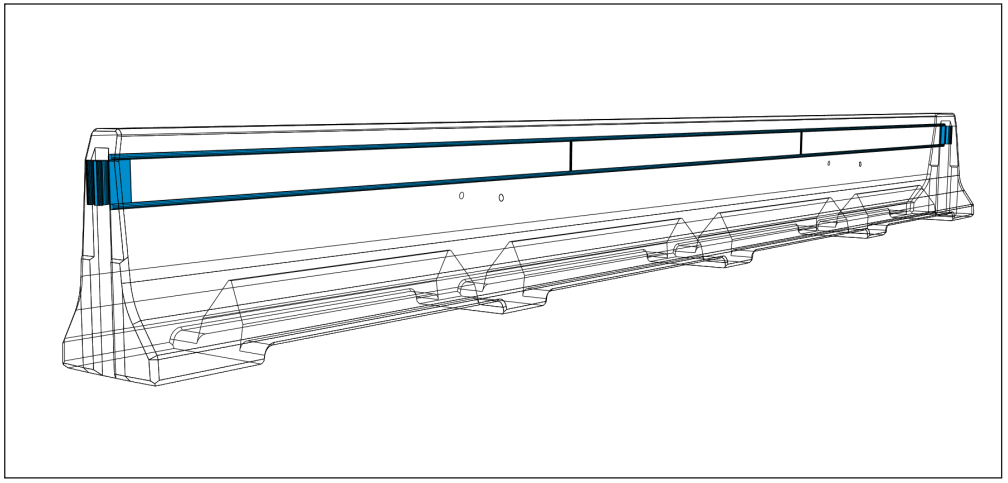
4. General Information	
Test Agency	crashtest-service.com GmbH (CTS)
Test Standard	MASH Test TL4-12
CTS-Test No	19983
Date	27-JUN-2023
5. Test Article	
Type	Precast Concrete Barrier
Name	“REBLOC 80F_8“
Installation Length	120 m (393.7 ft)
Key Elements - Barrier	Length: 8.00 m (26.2 ft) Height: 0.5 m (19.7 in) Base Width: 0.80 m (31.5 in)
6. Soil Type and Condition	
Type of Soil	Asphalt
Soil Strength	---
Condition	cloudy, dry, 22.6 °C (72.7 °F)
7. Test Vehicle	
Type/Designation	10000S
Make and Model	International DuraStar 4300, MY2011
Curb	6440 kg (14198 lb)
Test Inertial	10132 kg (22337 lb)
Dummy	---
Gross Static	10132 kg (22337 lb)

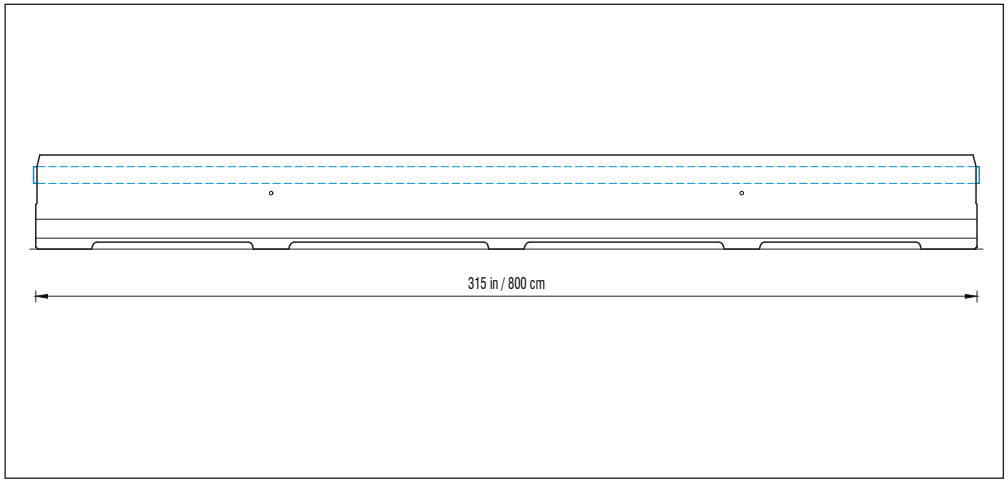
8. Impact Conditions	
Speed	89.4 km/h (55.6 mph)
Angle	15.1°
Location/Orientation	1.54 m (60.6 in) before transition of 7/8
9. Exit Conditions	
Speed	68.6 km/h (42.6 mph)
Angle	N/A
10. Post-Impact Trajectory	
Vehicle Stability	Satisfactory
Stopping Distance	74.7 m (245.1 ft) downstream of the impact point
	2.9 m (9.5 ft) laterally behind the test article
Vehicle Snagging	No
Vehicle Pocketing	No
Maximum roll angle	---
Maximum pitch angle	---
11. Occupant Risk	
OIV - Impact Velocity	
Longitudinal	---
Lateral	---

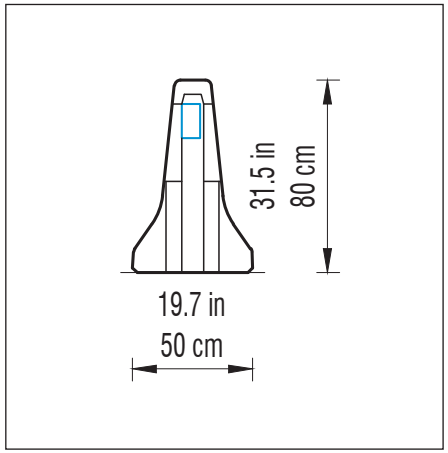
ORA - Ridedown Accelerations (10 msec avg.)	
Longitudinal	---
Lateral	---
THIV	---
PHD	---
ASI	---
12. Test Article Damage	
Classification	Moderate
Particularities	None
13. Test Article Deflections	
Dynamic Deflection	1.53 m (60.2 in)
Permanent Deflection	1.44 m (56.7 in)
Dynamic Working Width	3.95 m (155.5 in)
Height of Working Width	3.06 m (120.5 in)
14. Vehicle Damage	
Classification	Moderate
VDS	11-LFQ-4
CDC	11FDEW3
OCDI	---
Max. Exterior Deformation	N/A
Location of max. exterior Deformation	N/A
Max. Interior Deformation	No deformation
Location of max. interior Deformation	No deformation

REBLOC 80F_8

REBLOC®
Concrete Barriers







The element is connected by the integrated coupling, located at the face of the element.

Element	80F_8
Dimensions	315 x 19.7 x 31.5 in (800 x 50 x 80 cm)
Weight/element	7319 lb (3320 kg)
Date	2023-11-21