U.S. Department of Transportation
Federal Highway Administration

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

March 10, 2026

In Reply Refer To:
HSST-1/SS-190

Mr. Alex Beltran
Applus IDIADA
9270 Holly Rd
Adelanto, CA 92301

Dear Mr. Beltran:

We received your initial correspondence on March 13, 2025, 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 September 30, 2025, we received a complete set of files needed to complete our review. We write to inform you that the device Ecoposte Collapsible Signpost is eligible for Federal-aid reimbursement. This letter is assigned Federal Highway Administration (FHWA) control number SS-190.

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 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: Ecoposte Collapsible Signpost (B7)
Type of system: Sign Support
Test Level: TL-3
Testing conducted by: Applus IDIADA
Date of request: March 13, 2025

The device and as-tested condition(s) is described as follows:

The EcoPoste Collapsible Signpost is a support structure. The as-tested device utilized a reflective square aluminum composite sign and had a total weight of 66.1 lbs (30.0 kg). The Collapsible Signpost consists of one (1) Recycled Plastic – HDPE square tube, one (1) Square Aluminum Composite sign and two (2) 3/8'' bolt-washer assemblies. The Recycled Plastic – HDPE square tube has a width of 3.0 in. (0.08 m), a thickness of 3.0 in. (76 mm) and a height of 180 in. (4.57 m); the tube also features four (4) Reinforcing Bars that are positioned directly within the plastic during the extrusion process, the specifications for these reinforcing bars change depending on the selected type of signpost. The Recycled Plastic – HDPE square tube utilized for this series was a 14.0 ft. type B7 and included four (4) 8.0 mm Structural Steel reinforcing bars. The signpost was positioned so that 30.0 in. (0.76 m) of its total length would remain below grade. The Square Aluminum Composite sign has overall dimensions of 48.0 in. (1.22 m) by 48.0 in. (1.22 m) and a thickness of 0.1 in. (3 mm). The bolt-washer assemblies consist of one (1) 4'' x 3/8''. Hexagonal bolt with partial thread and anticorrosion treatment, one (1) 3/8'' pressure washer, one (1) 3/8'' nut and three (3) 3/8'' Flat Washers each. The bolt washer assemblies are positioned so the aluminum sign will sit at a height of 84 in. (2.13 m) from the bottom to the ground.

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 SS-190 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 Build America Buy America Act, 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

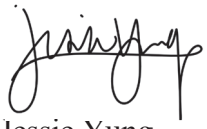
Issuance of this eligibility letter does not convey property rights of any sort nor any exclusive privilege. This letter is not authorization or consent by the government for the use, manufacture, or sale of any patented or proprietary system, device, design, product, or hardware for which the requester 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 SS-190. 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:	September 26, 2025	○ New ◉ Resubmission
	Name:	Alex Beltran	
	Company:	Applus IDIADA	
	Address:	9270 Holly Rd, Adelanto, CA 92301	
	Country:	United States of America	
	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
'SS': Breakaway Sign Supports, Mailboxes, & other small sign supports	◉ Physical Crash Testing ○ Engineering Analysis	Ecoposte Collapsible Signpost	AASHTO MASH	TL3

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:	Fernando Cunha	Same as Submitter ☐
Company Name:	Ecoposte	Same as Submitter ☐
Address:	Rua Taperoá, 58, São Paulo, SP, Brazil, 04571-060	Same as Submitter ☐
Country:	Brazil	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.

Applus IDIADA is an independent research and testing laboratory having no affiliation with any other entity. IDIADA KARCO is actively Involved In data acquisition and compliance/certification testing for a variety of government agencies and equipment manufacturers. The principals and staff of IDIADA KARCO have no past or present financial, contractual or organizational interest in any company or entity directly or indirectly related to the products that KARCO tests. If any financial interest should arise, other than receiving fees for testing, reporting, etc., with respect to any project, the company will provide, In writing, a full and immediate disclosure to the FHWA.

PRODUCT DESCRIPTION

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

The EcoPoste Collapsible Signpost is a support structure. The as-tested device utilized a reflective square aluminum composite sign and had a total weight of 66.1 lbs (30.0 kg).
The Collapsible Signpost consists of one (1) Recycled Plastic – HDPE square tube, one (1) Square Aluminum Composite sign and two (2) 3/8'' bolt-washer assemblies.
The Recycled Plastic – HDPE square tube has a width of 3.0 in. (0.08 m), a thickness of 3.0 in. (76 mm) and a height of 180 in. (4.57 m); the tube also features four (4) Reinforcing Bars that are positioned directly within the plastic during the extrusion process, the specifications for these reinforcing bars change depending on the selected type of signpost. The Recycled Plastic – HDPE square tube utilized for this series was a 14.0 ft. type B7 and included four (4) 8.0 mm Structural Steel reinforcing bars. The signpost was positioned so that 30.0 in. (0.76 m) of its total length would remain below grade. The Square Aluminum Composite sign has overall dimensions of 48.0 in. (1.22 m) by 48.0 in. (1.22 m) and a thickness of 0.1 in. (3 mm). The bolt-washer assemblies consist of one (1) 4'' x 3/8''. Hexagonal bolt with partial thread and anticorrosion treatment, one (1) 3/8'' pressure washer, one (1) 3/8'' nut and three (3) 3/8'' Flat Washers each.
The bolt washer assemblies are positioned so the aluminum sign will sit at a height of 84 in. (2.13 m) from the bottom to the ground.

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:	Alex Beltran	
Engineer Signature:	Alex Beltran Digitally signed by Alex Beltran DN: cn=Alex Beltran, o=Applus IDIADA, ou=Engineering, email=alex.beltran@idiada.com, c=US Date: 2025.09.30 11:06:28 -07'00'	
Address:	9270 Holly Rd, Adelanto, CA 92301	Same as Submitter ☒
Country:	United States of America	Same as Submitter ☒

A brief description of each crash test and its result:

Required Test Number	Narrative Description	Evaluation Results
3-60 (1100C)	Applus IDIADA Test No. P44367-02 and P44368-01. Test Dates January 9, 2025. Crash Test Report No. TR-P44367-02-C / TR-P44368-01-C for MASH 2016 test 3-60 crash test of the Ecoposte Collapsible Signpost at TL-3. On January 09, 2025, two EcoPoste Collapsible Signposts were impacted by a 2020 Kia Rio with a test inertial weight of 2,442.7 lbs (1,108.0 kg). The first Ecoposte Collapsible Signpost device was positioned at a CIA of 0° and was aligned 16.9 in. (430 mm) to the passenger side of the vehicle's centerline. The test vehicle impacted the 0° CIA device at a velocity of 19.95 mph (32.11 km/h). The impact location was 18.9 in. (480 mm) from the vehicle's centerline on the passenger side. Upon impact the sign yielded and made contact with the hood and windshield of the vehicle before under-riding the vehicle. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. The second Ecoposte Collapsible Signpost was impacted by a 2020 Kia Rio with a test inertial weight of 2,442.7 lbs (1,108.0 kg). The device was positioned at a CIA of 90° and was aligned 16.9 in. (430 mm) to the driver side of the vehicle's centerline. The test vehicle impacted the 90° CIA device at a velocity of 17.68 mph (28.46 km/h). The impact location was 17.3 in. (440 mm) from the vehicle's centerline on the driver side. Upon impact the sign yielded and made contact with the hood and windshield of the vehicle before under-riding the vehicle. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. The Ecoposte Collapsible Signpost Support Structure met all the requirements for MASH 2016 Test 3-60 TL-3.	PASS

Required Test Number	Narrative Description	Evaluation Results
3-61 (1100C)	Applus IDIADA Test No. P44369-01 and P44370-01. Test Dates December 10, 2024 and December 11, 2024. Crash Test Report No. TR-P44369-01-C / TR-P44370-01-C for MASH 2016 test 3-61 crash test of the Ecoposte Collapsible Signpost at TL-3. On December 10, 2024, an EcoPoste Collapsible Signposts was impacted by a 2018 Kia Rio with a test inertial weight of 2,545.0 lbs (1,154.4 kg). The Ecoposte Collapsible Signpost device was positioned at a CIA of 0° and was aligned 16.9 in. (430 mm) to the drivers side of the vehicle's centerline. The test vehicle impacted the 0° CIA device at a velocity of 64.54 mph (103.86 km/h). The impact location was 15.4 in. (391 mm) from the vehicle's centerline on the driver side. Upon impact the sign yielded and made contact with the hood and windshield of the vehicle before being pulled out of the ground. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. On December 11, 2024, an EcoPoste Collapsible Signposts was impacted by a 2020 Kia Rio with a test inertial weight of 2,441.5 lbs (1,107.5 kg). The Ecoposte Collapsible Signpost device was positioned at a CIA of 90° and was aligned 16.9 in. (430 mm) to the driver side of the vehicle's centerline. The test vehicle impacted the 90° CIA device at a velocity of 64.08 mph (103.12 km/h). The impact location was 18.1 in. (460 mm) from the vehicle's centerline on the driver side. Upon impact the sign yielded and made contact with the hood and windshield of the vehicle before being pulled out of the ground. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. The Ecoposte Collapsible Signpost Support Structure met all the requirements for MASH 2016 Test 3-61 TL-3.	PASS

3-62 (2270P)	Applus IDIADA Test No. P44371-01 and P44372-01. Test Dates December 10, 2024 and December 11, 2024. Crash Test Report No. TR-P44371-01-C / TR-P44372-01-C for MASH 2016 test 3-62 crash test of the Ecoposte Collapsible Signpost at TL-3. On December 10, 2024, an EcoPoste Collapsible Signposts was impacted by a 2019 RAM 1500 with a test inertial weight of 4,944.8 lbs (2,243.0 kg). The Ecoposte Collapsible Signpost device was positioned at a CIA of 0° and was aligned 19.7 in. (500 mm) to the driver's side of the vehicle's centerline. The test vehicle impacted the 0° CIA device at a velocity of 61.12 mph (98.36 km/h). The impact location was 20.3 in. (516 mm) from the vehicle's centerline on the driver side. Upon impact the sign deformed and made contact with the windshield of the vehicle, then yielded to the side of the vehicle and remained in the ground. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. On December 11, 2024, an EcoPoste Collapsible Signposts was impacted by a 2019 RAM 1500 with a test inertial weight of 5,076.1 lbs. (2,302.5 kg). The Ecoposte Collapsible Signpost device was positioned at a CIA of 90° and was aligned 19.7 in. (500 mm) to the driver side of the vehicle's centerline. The test vehicle impacted the 90° CIA device at a velocity of 63.24 mph (101.77 km/h). The impact location was 21.0 in. (534 mm) from the vehicle's centerline on the driver side. Upon impact the sign yielded and made contact with the hood and windshield of the vehicle before being pulled out of the ground. There was no damage observed inside the vehicle's occupant compartment and MASH deformation limits were not exceeded. The Ecoposte Collapsible Signpost Support Structure met all the requirements for MASH 2016 Test 3-62 TL-3.	PASS

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:	Applus IDIADA	
Laboratory Signature:	Alex Beltran — Digitally signed by Alex Beltran DN: cn=Alex Beltran, o=Applus IDIADA, ou=Engineering, email=alex.beltran@idiada.com, c=US Date: 2025.09.30 11:06:57 -07'00'	
Address:	9270 Holly Rd, Adelanto, CA 92301	Same as Submitter ☒
Country:	United States of America	Same as Submitter ☒
Accreditation Certificate Number and Dates of current Accreditation period :	ISO/IEC Standard 17025:2017, TL-371,	

Submitter Signature*: Alex Beltran — Digitally signed by Alex Beltran DN: cn=Alex Beltran, o=Applus IDIADA, ou=Engineering, email=alex.beltran@idiada.com, c=US Date: 2025.09.30 11:07:12 -07'00'

Submit Form

ATTACHMENTS

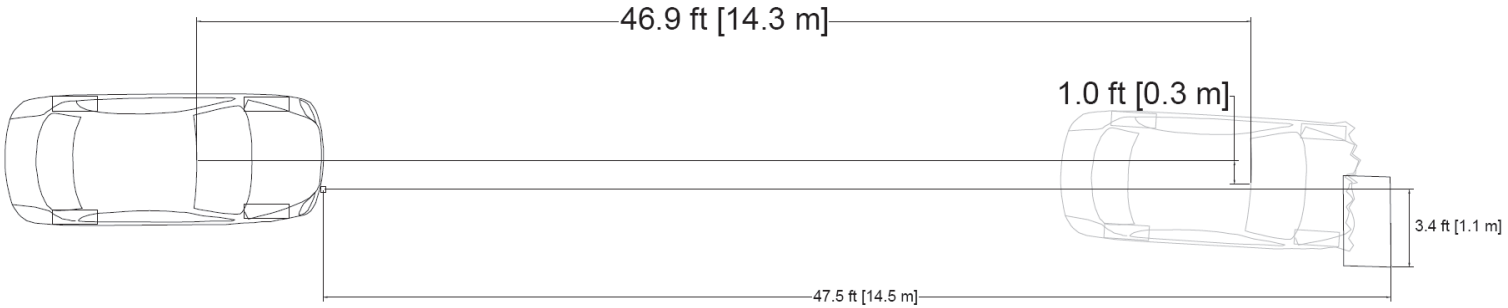
Attach to this form:

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

MASH 2016 Test 3-60 Summary (P44367-02, 0° CIA)



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44367-02
Test Designation	3-60
Test Date	1/9/25

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive safety support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	1100C
Year, Make, and Model	2020 Kia Rio
Curb Mass	2,507.7 lbs (1,137.5 kg)
Test Inertial Mass	2,442.7 lbs (1,108.0 kg)
Gross Static Mass	2,590.4 lbs (1,175.0 kg)

Impact Conditions

Impact Velocity (Target)	19.00 mph (30.00 km/h)
Impact Velocity (Actual)	19.95 mph (32.11 km/h)
Device Angle	0.0°
Location / Orientation (Target)	16.9 in. (430 mm) From Vehicle centerline on passenger side.
Location / Orientation (Actual)	18.9 in. (480 mm) From Vehicle centerline on passenger side.
Device Kinetic Energy	32.5 kip-ft (44.1 kJ)
Maximum KE Allowed	34 kip-ft (46 kJ)

Exit Conditions

Device Exit Velocity	13.61 mph (21.90 km/h)
Vehicle Resting Position	46.9 ft. (14.3 m) Downstream 1.0 ft. (0.3 m) Driver side
Vehicle Stability	Satisfactory
Maximum Roll Angle	6.3°
Maximum Pitch Angle	2.7°
Maximum Yaw Angle	7.6°

Occupant Risk

Longitudinal OIV	6.2 ft/s (1.9 m/s)
Lateral OIV	-1.3 ft/s (-0.4 m/s)
Longitudinal RA	-0.9 g
Lateral RA	2.0 g
THIV	6.6 ft/s (2.0 m/s)
PHD	2.0 g
ASI	0.14

Test Article Deflections

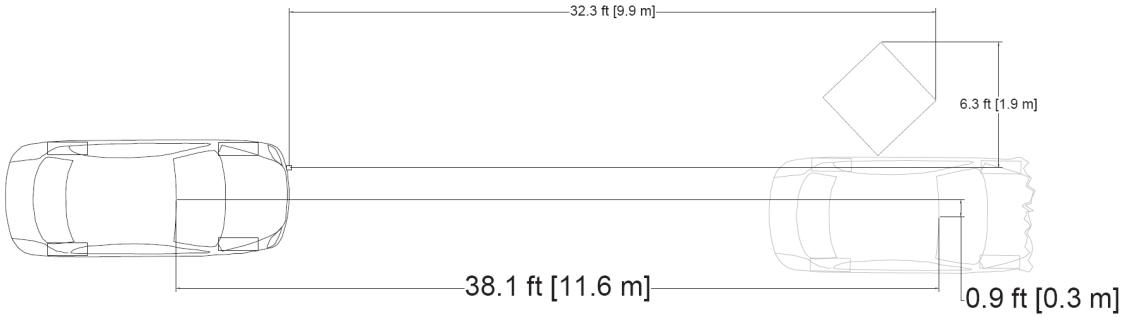
0° Sign Debris Field (longitudinal)	47.5 ft. (14.5 m)
0° Sign Debris Field (lateral)	3.4 ft. (1.0 m)

Vehicle Damage

Vehicle Damage Scale	12-FR-1
CDC	12FREN8
Maximum Deformation	0.0 in (0 mm)

Figure 2: Summary of Test 3-60 (P44367-02, 0° CIA)

MASH 2016 Test 3-60 Summary (P44368-01, 90° CIA)



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44368-01
Test Designation	3-60
Test Date	1/9/25

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive safety support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	1100C
Year, Make, and Model	2020 Kia Rio
Curb Mass	2,507.7 lbs (1,137.5 kg)
Test Inertial Mass	2,442.7 lbs (1,108.0 kg)
Gross Static Mass	2,590.4 lbs (1,175.0 kg)

Impact Conditions

Impact Velocity (Target)	19.00 mph (30.00 km/h)
Impact Velocity (Actual)	17.68 mph (28.46 km/h)
Device Angle	90.0°
Location / Orientation (Target)	16.9 in. (430 mm) From vehicle centerline on driver side
Location / Orientation (Actual)	17.3 in. (440 mm) From vehicle centerline on driver side
Device Kinetic Energy	25.5 kip-ft (34.6 kJ)
Maximum KE Allowed	34 kip-ft (46 kJ)

Exit Conditions

Device Exit Velocity	12.27 mph (19.75 km/h)
Vehicle Resting Position	38.1 ft. (11.6 m) Downstream 0.9 ft. (0.3 m) Passenger
Vehicle Stability	Satisfactory
Maximum Roll Angle	6.3°
Maximum Pitch Angle	-4.5°
Maximum Yaw Angle	5.6°

Occupant Risk

Longitudinal OIV	5.9 ft/s (1.8 m/s)
Lateral OIV	-1.0 ft/s (-0.3 m/s)
Longitudinal RA	-0.9 g
Lateral RA	1.3 g
THIV	6.2 ft/s (1.9 m/s)
PHD	1.4 g
ASI	0.13

Test Article Deflections

90° Sign Debris Field (longitudinal)	32.3 ft. (9.9 m)
90° Sign Debris Field (lateral)	6.3 ft. (1.9 m)

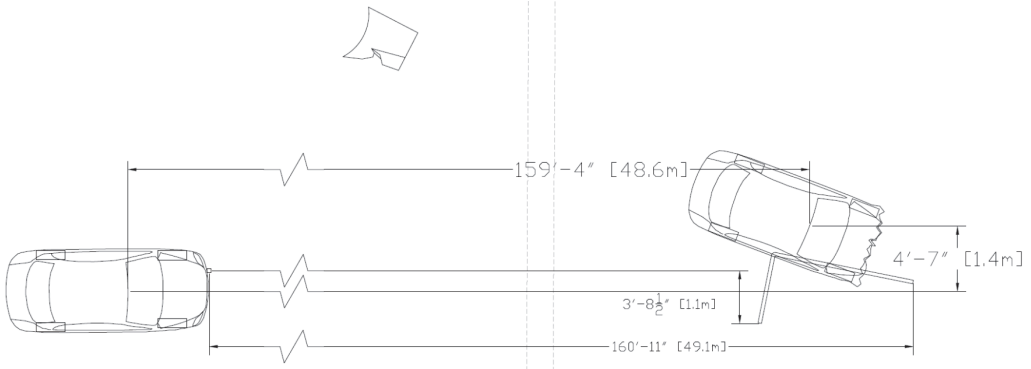
Vehicle Damage

Vehicle Damage Scale	12-FL-1
CDC	12FLEN3
Maximum Deformation	0.0 in (0 mm)

Figure 3: Summary of Test 3-60 (P44368-01, 90° CIA)

MASH 2016 Test 3-61 Summary (P44369-01, 0° CIA)

0.000 s | 0.050 s | 0.100 s | 0.150 s | 0.200 s | 0.250 s



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44369-01
Test Designation	3-61
Test Date	12/10/24

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive safety support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	1100C
Year, Make, and Model	2018 Kia Rio
Curb Mass	2,525.4 lbs (1,145.5 kg)
Test Inertial Mass	2,414.0 lbs (1,095.0 kg)
Gross Static Mass	2,568.3 lbs (1,165.0 kg)

Impact Conditions

Impact Velocity (Target)	62.14 mph (100.00 km/h)
Impact Velocity (Actual)	64.54 mph (103.86 km/h)
Device Angle	0.0°
Location / Orientation (Target)	16.9 in. (430 mm) From Vehicle centerline on driver side.
Location / Orientation (Actual)	15.4 in. (391 mm) From Veicle centerline on driver side.
Device Kinetic Energy	336.1 kip-ft (455.7 kJ)
Minimum KE Required	288 kip-ft (390 kJ)

Exit Conditions

Device Exit Velocity	59.46 mph (95.69 km/h)
Vehicle Resting Position	159.3 ft. (48.6 m) Downstream 4.6 ft. (1.4 m) Left
Vehicle Stability	Satisfactory
Maximum Roll Angle	-2.8°
Maximum Pitch Angle	-2.9°
Maximum Yaw Angle	47.3°

Occupant Risk

Longitudinal OIV	11.5 ft/s (3.5 m/s)
Lateral OIV	0.0 ft/s (0.0 m/s)
Longitudinal RA	-3.2 g
Lateral RA	1.7 g
THIV	11.8 ft/s (3.6 m/s)
PHD	3.4 g
ASI	0.37

Test Article Deflections

0° Sign Debris Field (longitudinal)	160.9 ft. (49.1 m)
0° Sign Debris Field (lateral)	3.7 ft. (1.1 m)

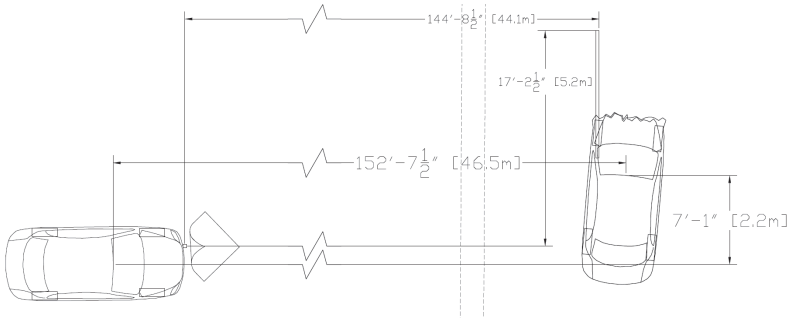
Vehicle Damage

Vehicle Damage Scale	12-FL-1
CDC	12FYEN3
Maximum Deformation	0.0 in (0 mm)

Figure 3: Summary of Test 3-61 (P44369-01, 0°CIA)

MASH 2016 Test 3-61 Summary (P44370-01, 90° CIA)

0.000 s | 0.050 s | 0.100 s | 0.150 s | 0.200 s | 0.250 s



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44370-01
Test Designation	3-61
Test Date	12/11/24

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive safety support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	1100C
Year, Make, and Model	2020 Kia Rio
Curb Mass	2,507.7 lbs (1,137.5 kg)
Test Inertial Mass	2,442.7 lbs (1,108.0 kg)
Gross Static Mass	2,590.4 lbs (1,175.0 kg)

Impact Conditions

Impact Velocity (Target)	62.14 mph (100.00 km/h)
Impact Velocity (Actual)	64.08 mph (103.12 km/h)
Device Angle	90.0°
Location / Orientation (Target)	16.9 in. (430 mm) From vehicle centerline on driver side
Location / Orientation (Actual)	18.1 in. (460 mm) From vehicle centerline on driver side
Device Kinetic Energy	335.3 kip-ft (454.6 kJ)
Minimum KE Required	288 kip-ft (390 kJ)

Exit Conditions

Device Exit Velocity	60.13 mph (96.77 km/h)
Vehicle Resting Position	152.6 ft. (46.5 m) Downstream 7.0 ft. (2.2 m) Left
Vehicle Stability	Satisfactory
Maximum Roll Angle	9.4°
Maximum Pitch Angle	7.1°
Maximum Yaw Angle	-92.4°

Occupant Risk

Longitudinal OIV	8.9 ft/s (2.7 m/s)
Lateral OIV	-1.3 ft/s (-0.4 m/s)
Longitudinal RA	-2.2 g
Lateral RA	-2.7 g
THIV	8.9 ft/s (2.7 m/s)
PHD	2.8 g
ASI	0.22

Test Article Deflections

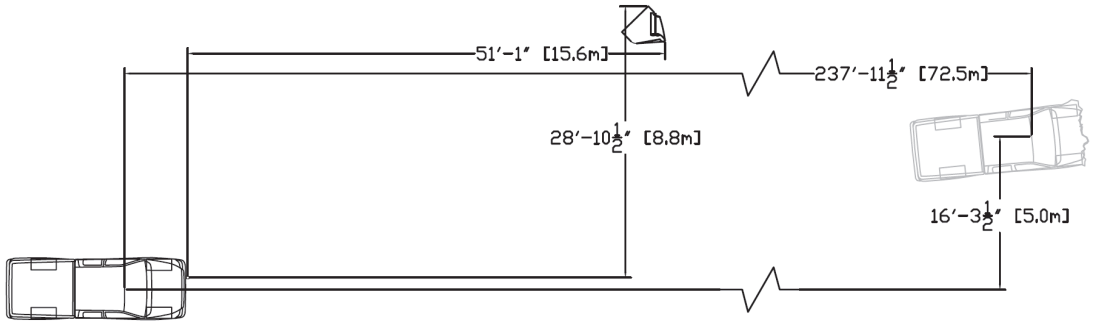
90° Sign Debris Field (longitudinal)	144.7 ft. (44.1 m)
90° Sign Debris Field (lateral)	17.2 ft. (5.2 m)

Vehicle Damage

Vehicle Damage Scale	12-FL-1
CDC	12FYEN3
Maximum Deformation	0.0 in (0 mm)

Figure 4: Summary of Test 3-61 (P44370-01, 90°CIA)

MASH 2016 Test 3-62 Summary (P44371-01, 0° CIA)



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44371-01
Test Designation	3-62
Test Date	12/10/24

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive Safety Support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	2270P
Year, Make, and Model	2019 Ram 1500
Curb Mass	5,135.7 lbs (2,329.5 kg)
Test Inertial Mass	5,076.1 lbs (2,302.5 kg)
Gross Static Mass	5,076.1 lbs (2,302.5 kg)

Impact Conditions

Impact Velocity (Target)	62.14 mph (100.00 km/h)
Impact Velocity (Actual)	60.90 mph (98.01 km/h)
Device Angle	0.0°
Location / Orientation (Target)	19.7 in. (500 mm) From vehicle centerline on driver side
Location / Orientation (Actual)	20.3 in. (516 mm) From vehicle centerline on driver side
Device Kinetic Energy	629.4 kip-ft (853.3 kJ)
Minimum KE Required	594 kip-ft (806 kJ)

Exit Conditions

Device Exit Velocity	60.50 mph (97.37 km/h)
Vehicle Resting Position	237.9 ft. (72.5 m) Downstream 16.3 ft. (5.0 m) Left
Vehicle Stability	Satisfactory
Maximum Roll Angle	-3.2°
Maximum Pitch Angle	-2.4°
Maximum Yaw Angle	20.6°

Occupant Risk

Longitudinal OIV	3.6 ft/s (1.1 m/s)
Lateral OIV	0.7 ft/s (0.2 m/s)
Longitudinal RA	-1.7 g
Lateral RA	1.5 g
THIV	3.6 ft/s (1.1 m/s)
PHD	1.9 g
ASI	0.13

Test Article Deflections

0° Sign Debris Field (longitudinal)	51.1 ft. (15.6 m)
0° Sign Debris Field (lateral)	28.9 ft. (8.8 m)

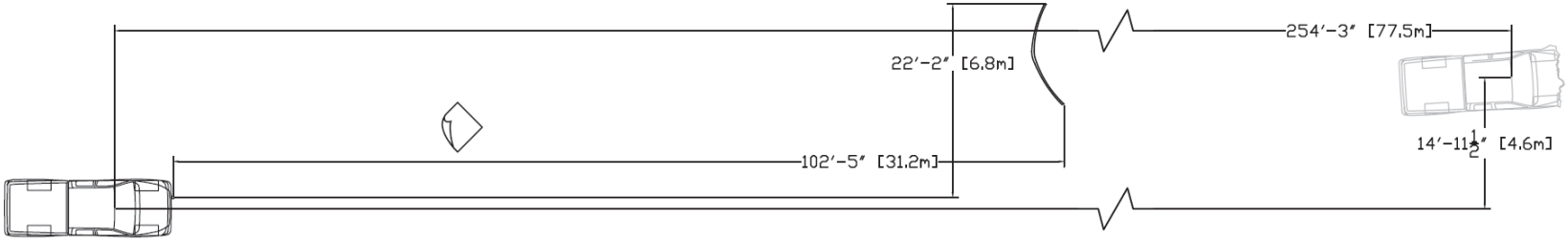
Vehicle Damage

Vehicle Damage Scale	12-FL-1
CDC	12FLAN1
Maximum Deformation	0.0 in (0 mm)

Figure 3: Summary of Test 3-62 (P44371-01, 0°CIA)

MASH 2016 Test 3-62 Summary (P44372-01, 90° CIA)

0.000 s | 0.050 s | 0.100 s | 0.150 s | 0.200 s | 0.250 s



GENERAL INFORMATION

Test Agency	Applus IDIADA
Test No	P44372-01
Test Designation	3-62
Test Date	12/11/24

TEST ARTICLE

Name / Model	EcoPoste Collapsible Signpost
Type	Support Structure
Device Height	15.0 ft. (4.57 m)
Key Elements	Passive Safety Support, aluminum sign
Road Surface	Fine silty soil

TEST VEHICLE

Type / Designation	2270P
Year, Make, and Model	2019 Ram 1500
Curb Mass	5,027.6 lbs (2,280.5 kg)
Test Inertial Mass	4,944.8 lbs (2,243.0 kg)
Gross Static Mass	4,944.8 lbs (2,243.0 kg)

Impact Conditions

Impact Velocity (Target)	62.14 mph (100.00 km/h)
Impact Velocity (Actual)	63.24 mph (101.77 km/h)
Device Angle	90.0°
Location / Orientation (Target)	19.7 in. (500 mm) From vehicle centerline on driver side
Location / Orientation (Actual)	21.0 in. (534 mm) From vehicle centerline on driver side
Device Kinetic Energy	661.0 kip-ft (896.3 kJ)
Minimum KE Required	594 kip-ft (806 kJ)

Exit Conditions

Device Exit Velocity	61.80 mph (99.45 km/h)
Vehicle Resting Position	254.2 ft. (77.5 m) Downstream 14.9 ft. (4.6 m) Left
Vehicle Stability	Satisfactory
Maximum Roll Angle	4.0°
Maximum Pitch Angle	-2.3°
MaximumYaw Angle	5.8°

Occupant Risk

Longitudinal OIV	2.3 ft/s (0.7 m/s)
Lateral OIV	-5.2 ft/s (-1.6 m/s)
Longitudinal RA	-1.4 g
Lateral RA	1.2 g
THIV	5.9 ft/s (1.8 m/s)
PHD	1.5 g
ASI	0.13

Test Article Deflections

90° Sign Debris Field (longitudinal)	102.4 ft. (31.2 m)
90° Sign Debris Field (lateral)	22.2 ft. (6.8 m)

Vehicle Damage

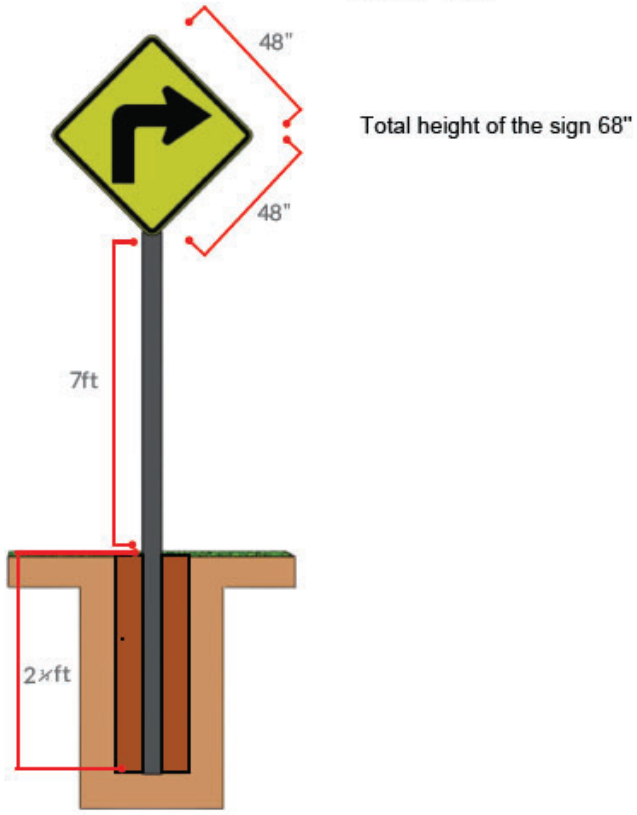
Vehicle Damage Scale	12-FD-1
CDC	12FLEN1
Maximum Deformation	0.0 in (0 mm)

Figure 4: Summary of Test 3-62 (P44372-01, 90°CIA)

ECOPOSTE

ECOPOSTE COLLAPSIBLE SIGNPOST

Section - 3' x 3'



ITEM	DESCRIPTION	UNIT
Signpost	Ecoposte Colapsible Signpost - section 3" x 3" x 15"	1
Sign Panel	Sign panel in ACM (aluminum composite) with 3mm thickness AASHTO standard - diamond - side 48 in	1
Fixation	Hexagonal Bolt with partial thread and anticorrosion treatment - 4 in - thickness 3/8"	2
Fixation	Flat Washer 3/8"	6
Fixation	Pressure washer 3/8"	2
Fixation	Nut 3/8"	2

The sign was installed directly to the post using through-bolts, but channels and brackets can be used.

The pole was installed in the ground according to a compaction method that complies with AASHTO soil support requirements.

www.ecoposte.com

Figure 1. EcoPoste Collapsible Signpost Installation

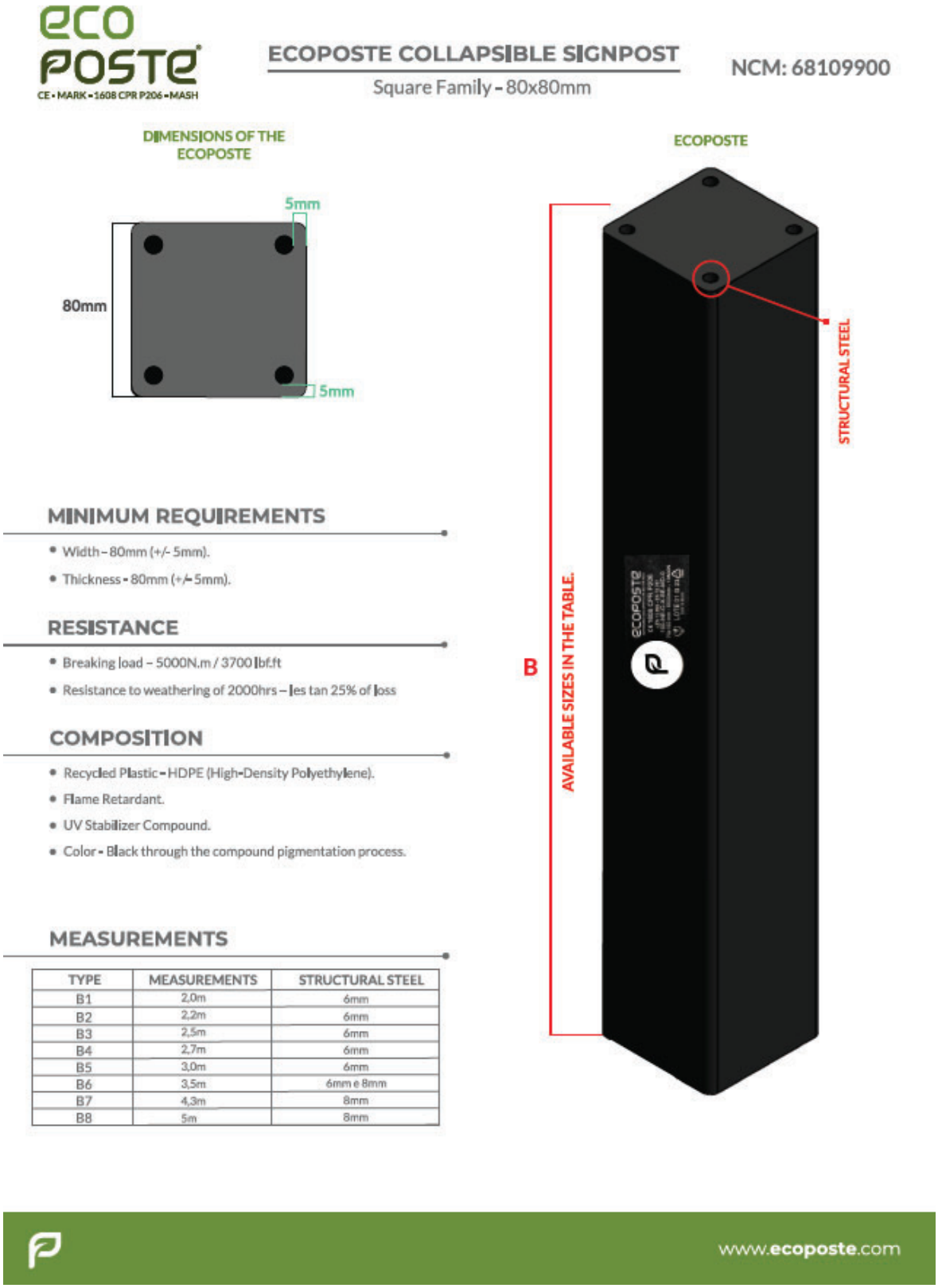


Figure 2. EcoPoste Collapsible Signpost Support (Metric units)

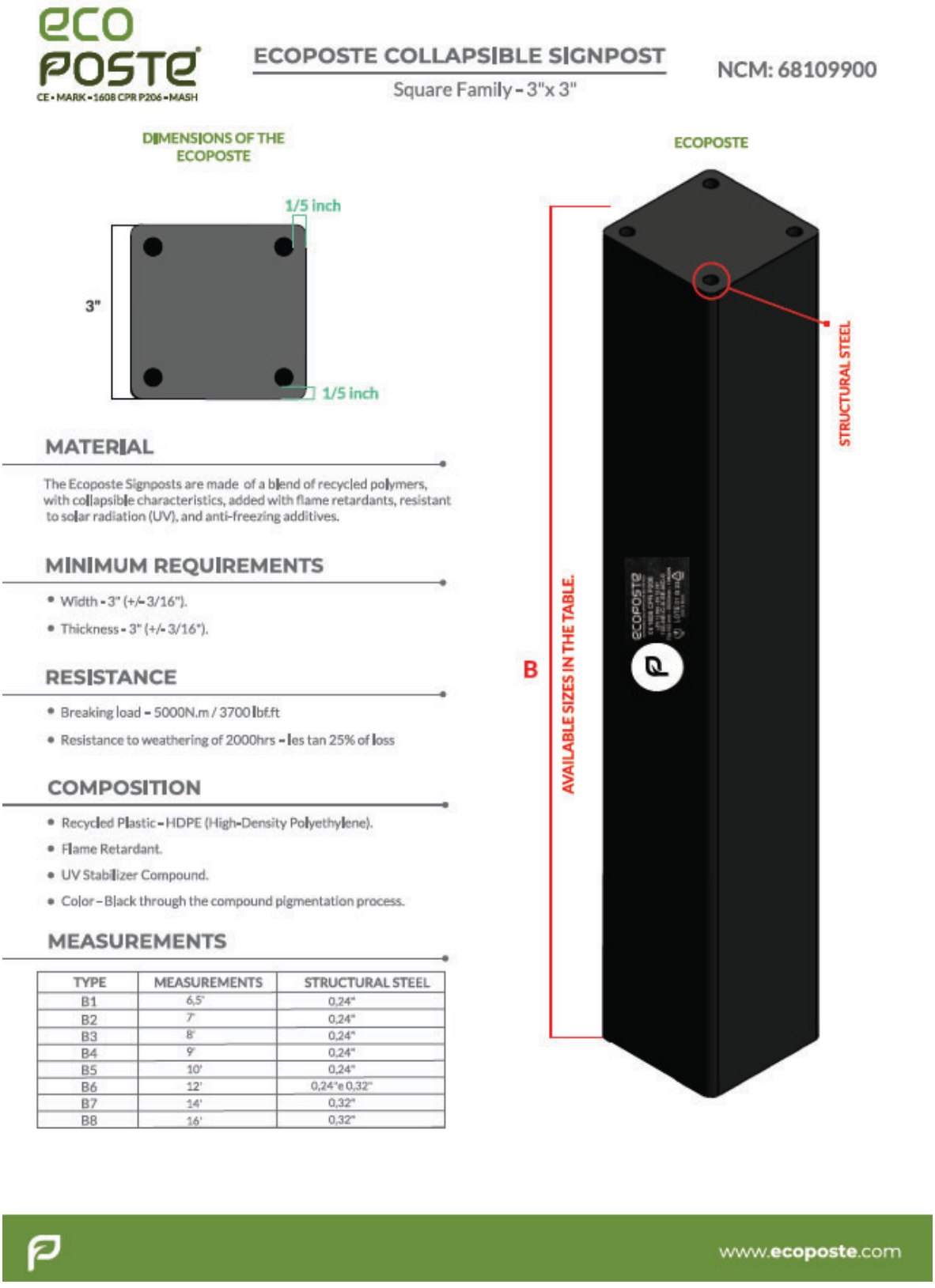


Figure 3. EcoPoste Collapsible Signpost Support (Imperial units)