

**Preliminary Approved Aerodynamic Devices**

Company Name	CARB Executive Order	Applicable Trailer MY	U.S. EPA Preliminary Device Approval ID	Device Description	Device Category	Measured $\Delta C_d A$ (m <sup>2</sup> )	Test Method	Suitable Trailer Type	Comments
EcoFlaps	<a href="#">AD-01-001</a>	2020	EF120170700001	Zytel Eco Flaps 24"x 28"	Splash Guard (TAUD)*	0.14	CD	Long/short dry and refrigerated vans	The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
EcoFlaps	<a href="#">AD-01-001-1</a>	2020	EF120170700001	Zytel Eco Flaps 24"x 28"	Splash Guard (TAUD)*	0.14	CD	Long/short dry and refrigerated vans	The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Ridge Corporation	<a href="#">AD-02-001</a>	2020	RIC20170900001	Green Wing Side Skirt RAC0012	Skirt (TATS)	0.52	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-001-1</a>	2020	RIC20170900001	Green Wing Side Skirt RAC0012	Skirt (TATS)	0.52	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-001-2</a>	2020	RIC20170900001	Green Wing Side Skirt RAC0012	Skirt (TATS)	0.52	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002-1</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002-2</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031-IB	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002-1</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031-IB	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-002-2</a>	2020	RIC20171000001	Green Wing Side Skirts RAC0031-IB	Skirt (TATS)	0.41	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-003</a>	2020	RIC20171000002	Freight Wing Side Skirt RAC0094	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-003-1</a>	2020	RIC20171000002	Freight Wing Side Skirt RAC0094	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-003-2</a>	2020	RIC20171000002	Freight Wing Side Skirt RAC0094	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Ridge Corporation	<a href="#">AD-02-003</a>	2020	RIC20171000002	Storage Box Skirt RAC0115	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	1) Not to be combined with underbody aerodynamic devices 2) The overall dimensions of the storage box with skirt must be at least 35" W x 245" L
Ridge Corporation	<a href="#">AD-02-003-1</a>	2020	RIC20171000002	Storage Box Skirt RAC0115	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	1) Not to be combined with underbody aerodynamic devices 2) The overall dimensions of the storage box with skirt must be at least 35" W x 245" L
Ridge Corporation	<a href="#">AD-02-003-2</a>	2020	RIC20171000002	Storage Box Skirt RAC0115	Skirt (TATS)	0.47	WT	Long dry and refrigerated vans	1) Not to be combined with underbody aerodynamic devices 2) The overall dimensions of the storage box with skirt must be at least 35" W x 245" L
Ridge Corporation	<a href="#">AD-02-004</a>	2020	RIC20171000003	Green Wing ECO Side Skirts RAC0052	Skirt (TATS)	0.46	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices



Ridge Corporation	<a href="#">AD-02-008</a>	2020	RIC20171000007	GreenGap Nose Fairing RAC0090	Gap Reducer (TGRT)	0.12	WT	Long dry vans	The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Ridge Corporation	<a href="#">AD-02-008-1</a>	2020	RIC20171000007	GreenGap Nose Fairing RAC0090	Gap Reducer (TGRT)	0.12	WT	Long dry vans	The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Ridge Corporation	<a href="#">AD-02-008-2</a>	2020	RIC20171000007	GreenGap Nose Fairing RAC0090	Gap Reducer (TGRT)	0.12	WT	Long dry vans	The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Stemco LP	<a href="#">AD-03-001</a>	2020	STM20170900001	TrailerTail Trident	Tail (TARF)	0.52	WT	Long dry and refrigerated vans	Not for use with other rear-mounted drag-reduction devices
Stemco LP	<a href="#">AD-03-001-1</a>	2020	STM20170900001	TrailerTail Trident	Tail (TARF)	0.52	WT	Long dry and refrigerated vans	Not for use with other rear-mounted drag-reduction devices
Stemco LP	<a href="#">AD-03-002</a>	2020	STM20170900002	TrailerTail 4x4	Tail (TARF)	0.58	WT	Long dry and refrigerated vans	Not for use with other rear-mounted drag-reduction devices
Stemco LP	<a href="#">AD-03-002-1</a>	2020	STM20170900002	TrailerTail 4x4	Tail (TARF)	0.58	WT	Long dry and refrigerated vans	Not for use with other rear-mounted drag-reduction devices
Strehl, LLC	<a href="#">AD-04-001</a>	2020	STR20170900001	TrailerBlade 715 2232-03	Skirt (TATS)	0.37	WT	Long dry vans	1) Not to be combined with underbody aerodynamic devices 2) The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Strehl, LLC	<a href="#">AD-04-001-1</a>	2020	STR20170900001	TrailerBlade 715 2232-03	Skirt (TATS)	0.37	WT	Long dry vans	1) Not to be combined with underbody aerodynamic devices 2) The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Strehl, LLC	<a href="#">AD-04-002</a>	2020	STR20170900002	TrailerBlade 715 2234-02	Skirt (TATS)	0.39	WT	Long dry vans	1) Not to be combined with underbody aerodynamic devices 2) The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Strehl, LLC	<a href="#">AD-04-002-1</a>	2020	STR20170900002	TrailerBlade 715 2234-02	Skirt (TATS)	0.39	WT	Long dry vans	1) Not to be combined with underbody aerodynamic devices 2) The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.
Strehl, LLC	<a href="#">AD-04-003</a>	2020	STR20170900003	TrailerBlade 715 2234-03	Skirt (TATS)	0.40	WT	Long dry vans	Not to be combined with underbody aero devices



Strehl, LLC	<a href="#">AD-04-012</a>	2020	STR20170900012	TrailerBlade 715 2132-02	Skirt (TATS)	0.40	WT	Long refrigerated vans	Not to be combined with underbody aero devices
Strehl, LLC	<a href="#">AD-04-012-1</a>	2020	STR20170900012	TrailerBlade 715 2132-02	Skirt (TATS)	0.40	WT	Long refrigerated vans	Not to be combined with underbody aero devices
Strehl, LLC	<a href="#">AD-04-013</a>	2020	NA	Streamline 720 System	A whole package consisting of Extended Side Skirt, Side End Fairings, and Mud Flaps	0.72	WT	Full aero long dry vans	Not to be combined with any other aerodynamic devices
Strehl, LLC	<a href="#">AD-04-014</a>	2020	NA	Streamline 890 System	A whole package consisting of Extended Side Skirt, Side End Fairings, Top End Fairing, and Mud Flaps	0.89	WT	Full aero long dry vans	Not to be combined with any other aerodynamic devices
Strehl, LLC	<a href="#">AD-04-015</a>	2020	NA	Streamline 1000 System	A whole package consisting of Extended Side Skirt, Bogie Skirt, Side End Fairings, Top End Fairing, and Mud Flaps	1.00	WT	Full aero long dry vans	Not to be combined with any other aerodynamic devices
Transtex-llc	<a href="#">AD-05-001</a>	2020	TXL20170900001	EDGE Skirt Models E-1932T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001-1</a>	2020	TXL20170900001	EDGE Skirt Models E-1932T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001</a>	2020	TXL20170900001	EDGE Skirt Models E-2332T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001-1</a>	2020	TXL20170900001	EDGE Skirt Models E-2332T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001</a>	2020	TXL20170900001	EDGE Skirt Models E-2332TI	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001-1</a>	2020	TXL20170900001	EDGE Skirt Models E-2332TI	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001</a>	2020	TXL20170900001	EDGE Skirt Models E-2930T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001-1</a>	2020	TXL20170900001	EDGE Skirt Models E-2930T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001</a>	2020	TXL20170900001	EZ-EDGE Skirt model EZ-1932T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex-llc	<a href="#">AD-05-001-1</a>	2020	TXL20170900001	EZ-EDGE Skirt model EZ-1932T	Skirt (TATS)	0.50	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex LLC	<a href="#">AD-05-002</a>	2020	NA	EDGE Skirt E-1930T	Skirt (TATS)	0.49	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Transtex LLC	<a href="#">AD-05-003</a>	2020	NA	EDGE Skirt E-2330T	Skirt (TATS)	0.51	WT	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-18	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001-1</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-18	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-19	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001-1</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-19	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-22	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001-1</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-22	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-001</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-23	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices

Utility Trailer Manufacturing Co.	<a href="#">AD-06-001-1</a>	2020	UTM20170900001	Side Skirt Model USS120A-4 Part #19-619-23	Skirt (TATS)	0.44	CFD	Long dry and refrigerated vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-002</a>	2020	UTM20170900002	Side Skirt Model USS120A-4 Part # 19-619-19	Skirt (TATS)	0.46	CFD	Long dry vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-002-1</a>	2020	UTM20170900002	Side Skirt Model USS120A-4 Part # 19-619-19	Skirt (TATS)	0.46	CFD	Long dry vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-002</a>	2020	UTM20170900002	Side Skirt Model USS120A-4 Part #19-619-23	Skirt (TATS)	0.46	CFD	Long dry vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-002-1</a>	2020	UTM20170900002	Side Skirt Model USS120A-4 Part #19-619-23	Skirt (TATS)	0.46	CFD	Long dry vans	Not to be combined with underbody aero devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-003</a>	2020	NA	Combination of Skirt and Tail Package (Side Skirt Model USS 120A-4 Part # 19-619-029, Part # 19-619-030, Trailer Tail Part# 19-659-001)	Skirt+Tail (TATS+TARF)	0.79	CFD	Full aero long refrigerated vans	Not to be combined with rear and underbody aerodynamic devices
Utility Trailer Manufacturing Co.	<a href="#">AD-06-004</a>	2020	NA	Combination of Skirt and Tail Package (Side Skirt Model USS 120A-4 Part # 19-619-031, Part # 19-619-032, Trailer Tail Part# 19-659-002)	Skirt+Tail (TATS+TARF)	0.82	CFD	Full aero long dry vans	Not to be combined with rear and underbody aerodynamic devices
Wabco	<a href="#">AD-07-001</a>	2020	WAB20170900001	TrailerSkirt 225	Skirt (TATS)	0.43	WT & CFD	Long dry and refrigerated vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-002</a>	2020	WAB20170900002	TrailerSkirt 248	Skirt (TATS)	0.49	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-003</a>	2020	WAB20170090003	TrailerSkirt 248	Skirt (TATS)	0.48	WT	Long refrigerated vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-004</a>	2020	WAB20170090004	TrailerSkirt 248 Inboard	Skirt (TATS)	0.50	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-005</a>	2020	WAB20170090005	TrailerSkirt 259	Skirt (TATS)	0.51	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-006</a>	2020	WAB20170090006	TrailerSkirt 259	Skirt (TATS)	0.46	CFD	Long refrigerated vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-007</a>	2020	NA	TrailerSkirt 248 Inboard	Skirt (TATS)	0.48	WT	Long refrigerated vans	Not to be combined with underbody aerodynamic devices
Wabco	<a href="#">AD-07-008</a>	2020	NA	Wabco OptiFlow Tail/AutoTail	Tail (TARF)	0.52	WT	Long dry/refrigerated vans with swing doors	Not to be combined with other rear aerodynamic devices
Aero Industries Inc	<a href="#">AD-08-001</a>	2020	NA	Aero Tail System Part # 2610-961220	Tail (TARF)	0.47	WT	Long dry vans	Not to be combined with rear-end aerodynamic devices.
Michelin North America	<a href="#">AD-09-001</a>	2020	NA	Energy Guard System	A whole package consisting of Skirt, Side End Fairings, Top End Fairing, Mud Flaps, and Wake Reducer	0.75	CFD	Full aero long dry and refrigerated vans	Not to be combined with any other aerodynamic devices
Michelin North America	<a href="#">AD-09-001-1</a>	2020	NA	Energy Guard System	A whole package consisting of Skirt, Side End Fairings, Top End Fairing, Mud Flaps, and Wake Reducer	0.75	CFD	Full aero long dry and refrigerated vans	Not to be combined with any other aerodynamic devices
Michelin North America	<a href="#">AD-09-001-2</a>	2020	NA	Energy Guard System	A whole package consisting of Skirt, Side End Fairings, Top End Fairing, Mud Flaps, and Wake Reducer	0.75	CFD	Full aero long dry and refrigerated vans	Not to be combined with any other aerodynamic devices
Michelin North America	<a href="#">AD-09-002</a>	2020	NA	Energy Guard RD System	A whole package consisting of Skirt, Side End Fairings, Top End Fairing, and Mud Flaps	0.75	CFD	Partial aero long dry and refrigerated vans (dry and/or refrigerated van trailers with roll up doors)	Not to be combined with any other aerodynamic devices

Wabash National	<a href="#">AD-10-001</a>	2020	WNM20171000001	DuraPlate AeroSkirt (bias inside landing gear) ,AeroSkirt CX (bias inside landing gear)	Skirt (TATS)	0.44	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-001-1</a>	2020	WNM20171000001	DuraPlate AeroSkirt (bias inside landing gear) ,AeroSkirt CX (bias inside landing gear)	Skirt (TATS)	0.44	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-002</a>	2020	WNM20171000002	DuraPlate AeroSkirt (straight flush or bias outside landing gear), AeroSkirt CX (straight flush or bias outside landing gear)	Skirt (TATS)	0.46	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-002-1</a>	2020	WNM20171000002	DuraPlate AeroSkirt (straight flush or bias outside landing gear), AeroSkirt CX (straight flush or bias outside landing gear)	Skirt (TATS)	0.46	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-003</a>	2020	WNM20171000003	Ventrix DRS	Skirt (TATS)	0.53	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-003-1</a>	2020	WNM20171000003	Ventrix DRS	Skirt (TATS)	0.53	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Wabash National	<a href="#">AD-10-004</a>	2020	WNM20171000004	AeroFin XL	Tail (TARF)	0.45	WT	Long dry vans with swing doors	Not to be combined with other rear aerodynamic devices
Wabash National	<a href="#">AD-10-004-1</a>	2020	WNM20171000004	AeroFin XL	Tail (TARF)	0.45	WT	Long dry vans with swing doors	Not to be combined with other rear aerodynamic devices
Hyundai Translead	<a href="#">AD-11-001</a>	2020	NA	HT EcoFairing V1	Skirt (TATS)	0.50	WT	Long dry vans	Not to be combined with underbody aerodynamic devices
Rocketail	<a href="#">AD-12-001</a>	2020	NA	Rocketail	Tail (TARF)	0.30	CFD	Long dry vans with swing doors	1) Not to be combined with other rear aerodynamic devices 2) The device is granted preliminary approval for use only when it is used in combination with other preliminary-approved devices to achieve a composite delta CdA value equal to or greater than 0.40 square meters.

a) Preliminary-approved devices with delta CdA values less than 0.40 square meters, that are used on a pre-2020 model-year (i.e., noncertified) long dry-van trailer or long refrigerated-van trailer, as applicable, that travel on a highway in California, are required to be combined with other devices to generate a delta CdA value equal to or greater than 0.40 square meters in order to be in compliance with the requirements of the California Tractor-Trailer Greenhouse Gas regulations, as specified in title 17 CCR section 95303(b). This requirement does not apply for 2020 and later model-year trailers that are certified under the Phase 2 Greenhouse Gas regulations.

b) The measured delta CdA value of the devices with delta CdA values less than 0.40 square meters, can be used individually or with the measured delta CdA values of other preliminary- approved devices as part of a composite delta CdA value calculation for all aerodynamic devices used with a trailer configuration to determine the corresponding trailer Bin-designated delta CdA value.

c) All of the listed devices granted preliminary approval are valid only for use on the heavy-duty trailer types through the 2020 model year.

d) NA = not applicable. This applies to devices evaluated by CARB directly and not a U.S. EPA preapproved package.

e) TGRT=Gap reducing trailer fairing; TATS=Trailer aerodynamic side skirt; TARF=Trailer aerodynamic rear fairing; TAUD=Trailer aerodynamic underbody device

f) WT=wind tunnel; CFD=computational fluid dynamics; CD=coastdown

\* EcoFlaps is considered as a type of Trailer aerodynamic underbody device which can be combined with Trailer aerodynamic side skirt.

List last updated on March 2020