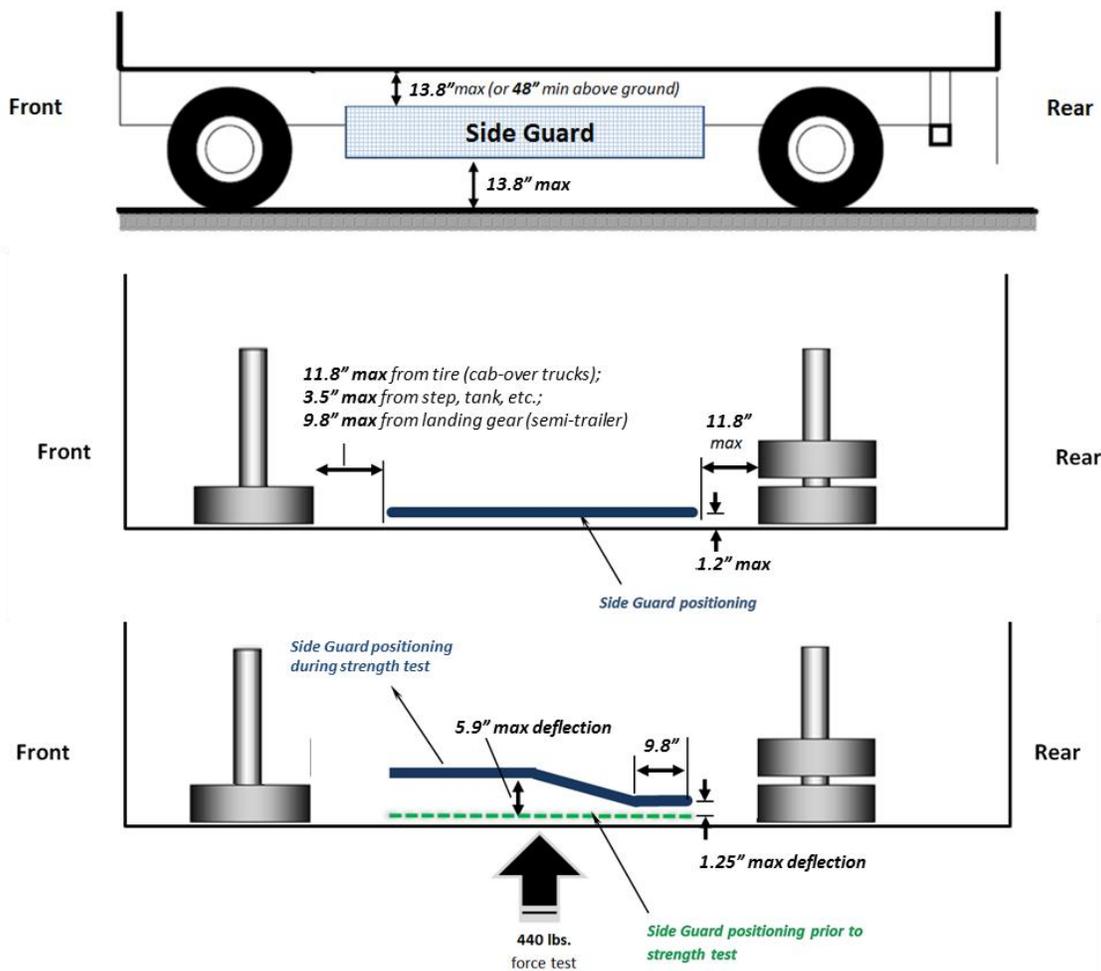


Truck Side Guard Specifications

Recommended Standard DOT-VNTSC-OSTR-16-05

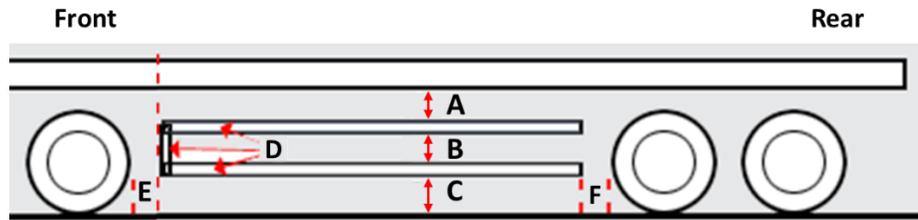
This document is intended to be used by (1) public or private medium/heavy-duty truck fleets considering adding side guards; (2) jurisdictions or customers that require side guards through policy or procurement; (3) manufacturers of side guards; and (4) truck manufacturers and dealers.¹ The specifications below are based on previously published Volpe recommendations (Reports [DOT-VNTSC-DCAS-14-01](#) and [DOT-VNTSC-SFMTA-16-01](#)) and may be referred to as the “Volpe side guard standard” or “Volpe side guard specifications.” This standard can be used as a basis for design, production, testing, review, and procurement of side guards and side-guard-equipped vehicles.

I. Dimensional and strength specifications



A side guard meets the strength requirement if it is capable of withstanding **440 pounds** of force applied perpendicularly to any part of its surface by the center of a flat, circular plate of diameter no greater than **8.7 inches**, such that the deflection of the loaded side guard measured at the center of the plate does not exceed (1) **5.9 inches** anywhere, or (2) **1.25 inches** in the rearmost **9.8 inches**. A manufacturer may also demonstrate compliance using a valid engineering calculation, such as finite element analysis.²

2. Additional dimensional specifications for rail-style side guards



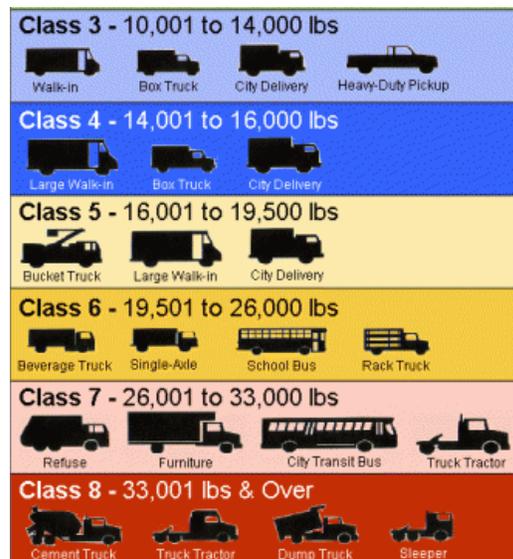
A	13.8 inches max
B	11.8 inches max
C	13.8 inches max
D	4.0 inches min
E	11.8 / 3.5 inches max*
F	11.8 inches max

*The gap between the side guard's leading edge and the wheel, wheel arch, or other permanent vehicle structure should not exceed **11.8 inches**. A **turned-in vertical bar** connecting the forward ends of the horizontal rails should be incorporated if the forward gap exceeds **3.5 inches**. The bar need not be turned in or can be omitted if the distance is less than 3.5 inches.

3. Vehicle weight threshold and flexibility of design

Side underride protection should be included on **Class 3** and above vehicles, which have a gross vehicle weight rating (GVWR) of **10,000 pounds** and higher.

Acceptable side underride protection can be provided by **any combination** of vehicle body, fuel tanks, tag axles, tool boxes, or purpose-built side guards comprising a smooth surface flush with the vehicle sidewall, meeting the Volpe dimensional and strength specifications set forth above.



Graphic adapted from U.S. Department of Energy

¹ This document was prepared for the Office of the Assistant Secretary of Research and Technology.

² A third option for demonstrating strength compliance is type approval by the United Kingdom Department for Transport [Vehicle Certification Agency](#) or other recognized side guard homologation with equal or greater stringency. A side guard with such type approval that also meets the Volpe dimensional criteria may be considered to meet the Volpe standard.