

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the

Working Party on the Transport of Dangerous Goods

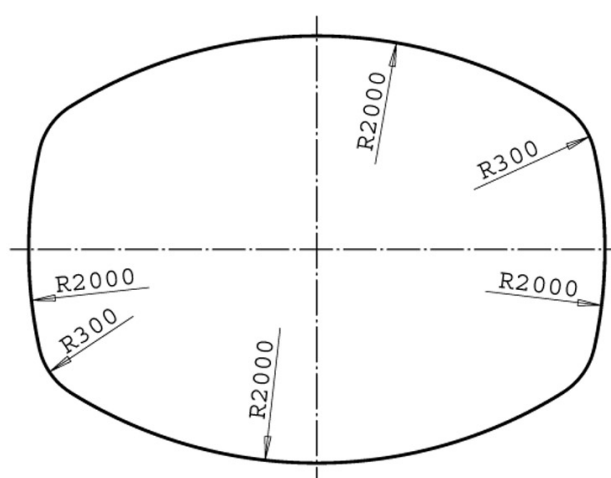
Bern, 22–26 March 2010

Item 2. of the provisional agenda

Tanks

Comments on the informal document INF.7 from Sweden

Transmitted by the government of Finland



Elliptical shape

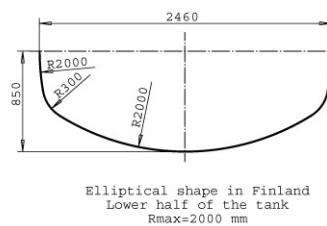
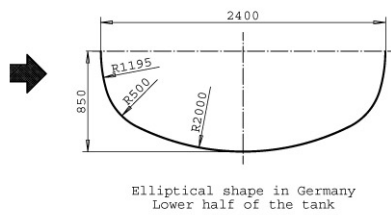
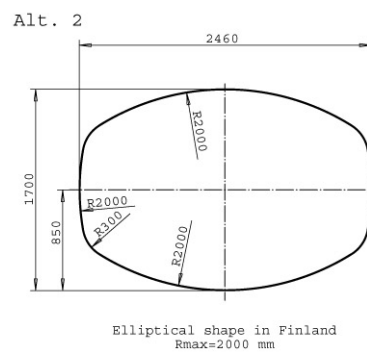
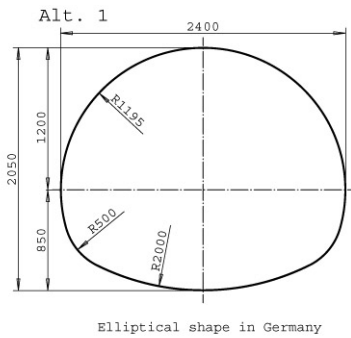
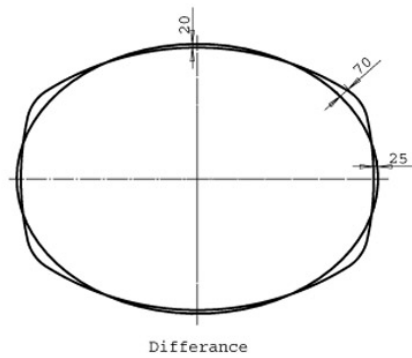
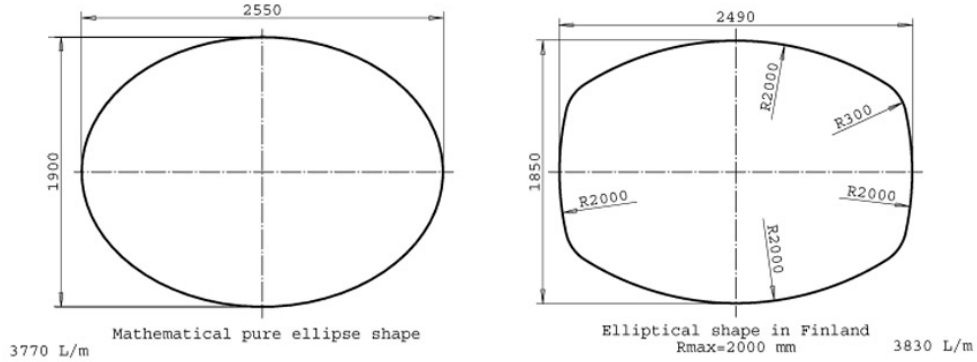
Rmax=2000 mm

Rmin= 300 mm

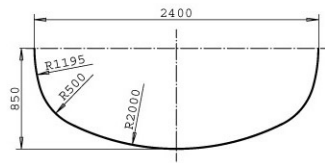
1. In our opinion the term “elliptical” does not mean that the shape of the tank is purely as an ellipse. The meaning “elliptical” gives a bite more flexibility.
2. Pure ellipse shape, where the radius of curvature is continuously changing, is actually not possible to manufacture with non-CNC controlled rounding machine. Many small manufactures still use the non-CNC controlled rounding machines in their production.
3. The tank profile with maximum radius of 2000 on top, bottom and sides and Rmin connection radius of 300 mm in corners is very near to pure ellipse shape. No meaningful differences can be found with the strength of this shape compared to a pure ellipse shape.
4. It is safer to consider this type of tank to an elliptical shape and have the partitions or surge plates after each 7500 litres than to consider the shape as box shape, where even 20 000 litres compartment can be done without surge plates, using the side strengthening of 3 mm aluminium sheet with about 600 mm height on the centreline of their tank (Al normally used for petroleum tanks, according to ADR 6.8.2.1.20 item 4.).
5. We have in Finland a good real life experience of the safe use of these types of tanks, even in many serious accidents during past 30 years.

Conclusion

6. Finland considers that the tank is elliptical in the Alt. 1 (elliptical shape in Germany) and Alt. 2 (elliptical shape in Finland) below.
7. Finally, we would like to ask, if it is necessary to consider also the definition of term circular (see Alt 3).

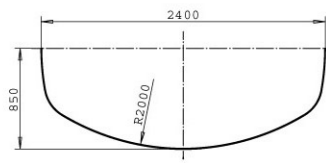


Alt. 1

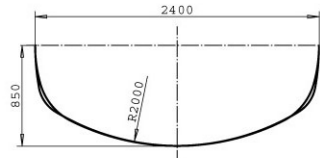


Elliptical shape in Germany

Alt. 2

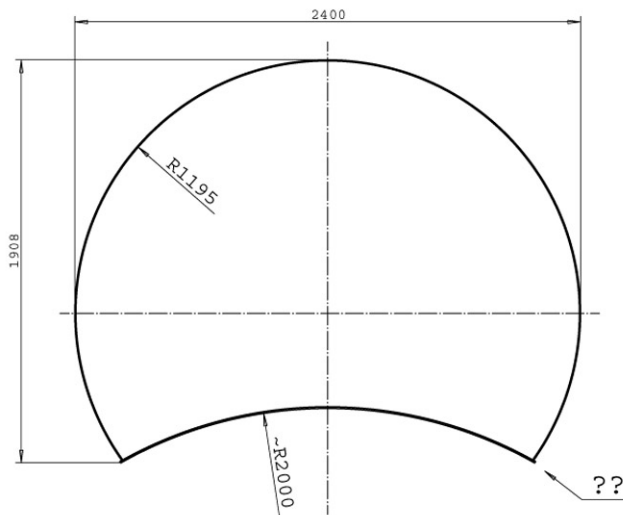


Elliptical shape in Finland
Rmax=2000 mm



Two above tank shapes
over each other.
Differences ??

Alt. 3



Circular cross section of ADR tank ??

