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Homework 05

Building Aerodynamics course

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The 3D brick shaped body below has rounded front corners, which inhibit separations on the sidewalls. Behind the body, there is a separation bubble.

Task:

1. Make an estimate for the total horizontal force F_D acting on the body from surface friction and from pressure differences!
2. Compare the magnitude of the two sources of drag!

Note:

- The boundary layer on the sidewalls can be supposed to be turbulent.
- You can use friction and pressure coefficients given in the lecture slides.
- The size of corner areas can be neglected in the calculation.

