

Lecture F8 Mud: Streamlines, etc.

(42 respondents)

1. **Can you treat boundary layers as solids.** (1 student)

Yes, it's a well-known concept – the bulk of the flow behaves as though the boundary was replaced by a solid layer. But the thickness of this equivalent solid layer, called the *displacement thickness*, is only a fraction as thick as the actual boundary layer. We will probably touch on this later.

2. **What happens to the flow in the streamtube as the boundary layers widen?** (1 student)

Eventually the boundary layers will merge, and the flow in the channel will become what's known as a *fully-developed channel flow*. We will go over this later in Unified Fluids.

3. **Confused about the difference between streamlines, pathlines, and streaklines.** (22 students)

YIKES! Too difficult to explain here without good figures. I'll go over this in recitation.

4. **Cool stuff with the pathline/streakline symmetry** (2 students)

Yeah, it's sorta unexpected.

5. **No mud** (16 students)