

**Answer on question #52790, Physics / Acoustics**

**Question** When the speed of a source is less than the speed of sound in a medium , the wavefront of the wave is A) Cylindrical B) Spherical C) Conical D) Plane

When the speed of a source is GREATER than the speed of sound in a medium , the wavefront of the wave is A) Cylindrical B) Spherical C) Conical D) Plane

When the speed of a source is EQUAL to the speed of sound in a medium , the wavefront of the wave is A) Cylindrical B) Spherical C) Conical D) Plane

**Solution** When the speed of a source is less than the speed of sound in a medium, the wavefront of the wave is A) spherical, as sound waves move faster than source, and source can not change for of wavefront.

When the speed of a source is EQUAL to the speed of sound in a medium , the wavefront of the wave is B) Spherical.

When the speed of a source is EQUAL to the speed of sound in a medium , the wavefront of the wave is C) Conical. In this case source a shock front, the Mach cone, is formed, because at every second source leave behind the edge of the front.