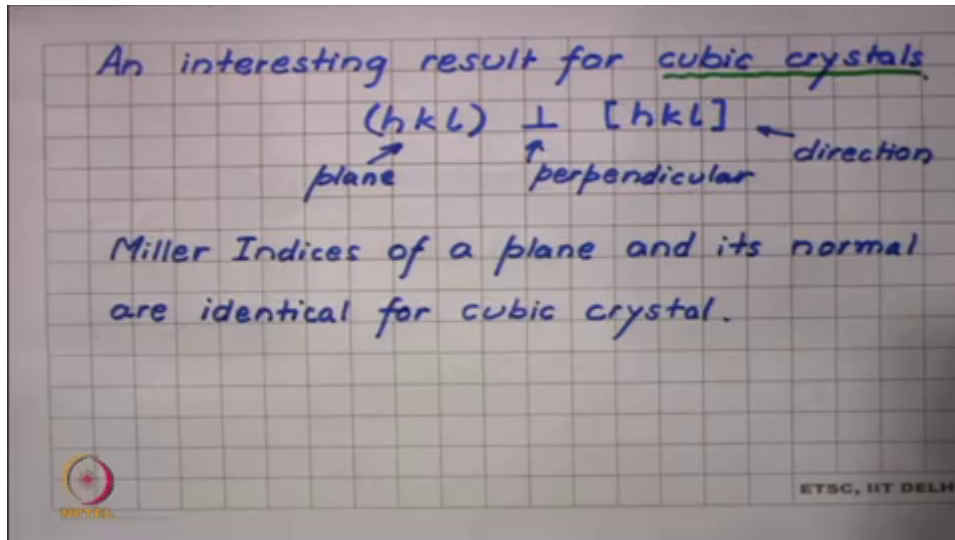


**Introduction to Materials Science and Engineering**  
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**Lecture – 12**  
**Miller indices for plane and its normal cubic crystal**

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Hello, today we will discuss an interesting result for cubic crystal about the miller indices of planes and directions. So, here is the result I have written symbolically the hkl plane remember the round bracket for plane is perpendicular. I am using the symbol for perpendicularity. It is perpendicular to hkl direction, this is the plane and this is the direction.

This is a very interesting and important result, what it is actually saying that normal to a given plane will have indices which are exactly the same as the indices of the plane. Let me write this out. So, and this is true it is important to keep this in mind that this is true only for cubic crystals. So, the result is true for cubic crystal for so, let me write Miller Indices of a plane and it is normal are identical for cubic crystal.