

## E1-12 Temperature dependent X-ray diffraction studies of SnO thin films

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Tin oxide (SnO) is being used, in the form of films, as a protective coating of aluminium channels (aluminium cladding) in the building industry. From the local manufacturer's terminology, these oxide films are known as "bronze coatings" due to their colour. Protection of the buried aluminium metal depends on the stability of the oxide coating in addition to the required thickness. Manufacturer-made SnO films and SnO films grown in the laboratory were studied using X-ray diffractometry (XRD) after annealing the samples in air at different temperatures ranging upto about 650°C. The disappearance of SnO XRD peak of manufacturer-made samples occurred at a lower temperature (around 400 °C) compared to the temperature of disappearance (around 600 °C) of SnO XRD peak of laboratory-made samples. The polycrystalline order of one type of manufacturer-made sample exists in a larger temperature range whereas in the other type of manufacturer-made sample, the order diminishes rapidly after about 70°C.

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