Many applications for the mid infrared (IR) waveband (3 um – 5 um) and far IR waveband (8 um – 12 um) require the use of a transparent conductive coating (TCC). Typically, there are three choices for the TCC: doped metal oxides, i.e., transparent conductive oxides (TCO), e.g., indium oxide or zinc oxide; very thin metallic films, e.g., silver, gold and silver-gold alloys; or grid or mesh patterned opaque EC coatings. A review of some quite old previous results (Ref 1 – 3), and a limited literature review of previous and current results were analyzed and compared with the requirements of some typical applications in these two wavebands. While physics doesn’t change, our understanding of these laws does and technology advances. Our better understanding, means we can meet more demanding application requirements. In a recent paper (2024), I discussed transparent conductive oxides (TCO) and the impact of the carrier concentration N on the mobility u, and therefore, on the plasma wavelength and the spectral transmittance bandwidth. Lowering N, allows transmittance further into the near infrared. However, eventually, N will become so low that the TCO is no longer degenerate, and it becomes a semiconductor rather than a true (“metallic”) conductor. This makes using a TCO problematic in the mid IR waveband and very compromised in the far IR waveband. A better choice for a TCC for these two IR wavebands may be very thin metallic films. A second paper in 2024 discussed achieving high transmittance with very thin metallic films, which were inhibited from having an island type structure and becoming electrically discontinuous. With these techniques, very thin metallic films can be an effective TCC with good IR transmittance. Measured results and some calculated results for these films are compared with “current” application requirements.