

# Appia and the demand for the critical Heavy Rare Earths

written by Jack Lifton | November 6, 2023

The rare earths necessary for the manufacturing of the magnets needed for the type of electric motors that can drive electric cars fall into two categories, the basic critical permanent magnet rare earths, neodymium (Nd) and praseodymium (Pr), and the critical, critical rare earths necessary for that purpose, dysprosium (Dy) and terbium (Tb). Without the addition of Dy and/or Tb to the alloy based on NdPr (a natural mixture called didymium) the magnetic material produced will not be able to maintain its (magnetic) strength at the high operating temperature and cycles of heating and cooling experienced daily by the electric drive motors to be used in EVs.