A U.S. manufacturer of advanced carbon products needed a replacement overrunning clutch solution for the auxiliary drive on its carbon pellet oven. A clutch coupling is used to disengage the machine’s low speed auxiliary drive from the higher speed main drive. The problem was that the low running speed of the existing competitor friction clutch made it difficult to maintain burnish.

Formsprag Clutch was contacted by one of its distribution partners to help solve the clutching problem. After a careful review of the application requirements, Formsprag engineers designed a unique electric clutch-coupling configuration that automatically disengages the auxiliary drive from the main drive without any added controls.

The new solution features a Formsprag FSO-500 overrunning clutch with a torque rating of 1,175 lb.ft. A TB Wood’s Dura-Flex WE30 coupling with a rated torque of 3,650 in.lbs. is also utilized.

A Formsprag stub adapter is positioned between the FSO clutch and the Dura-Flex coupling. Since the oven was manufactured in Europe, a metric bore/key was required on one of the standard Dura-Flex hubs to accommodate the 30mm reducer output shaft. Dura-Flex elastomeric couplings have a high operating range of -40°F to 200°F. However, special high-temp grease was required in the FSO unit due to the 150°F ambient temperature.