



**CHALLENGER TRACTOR COMPONENTS
(FENDERS, HVAC COVER, OUTER ROOF)**

Entered by: GI Plastek

Molder

GI Plastek
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Designer

AGCO

Moldmaker

PPD Recherche

Original Equipment Manufacturer (OEM)

AGCO

Entry Description

The Challenger Tractor is a follow-up to the largely successful RC99 and E-Series tractors. Having previously employed the RIM process in E-Series elastomeric fenders and rear cover pieces, the OEM decided to take the process to the next step with fenders (2 sizes), an HVAC cover, and an outer roof molded in 2-stage in-mold coated elastomeric and structural foam RIM. The Outer Roof is molded in RIM structural foam and is 2-stage in-mold coated in both yellow and white base coats. The nickel shell mold features 4 hydraulically actuated core pulls which can produce versions with light openings (US version) or without (EU version). The HVAC cover and fenders are molded in 2-stage in-mold coated elastomeric RIM and are also molded in yellow and green versions. The fender molds also contain hydraulically actuated core pulls which can produce fenders with and without rear mud flap holes.

Why is this Part Innovative?

Wanting to provide their customers with a superior looking tractor with improved weathering and gloss retention characteristics, the OEM decided to clear-coat all exterior trim pieces including all metal and plastic components. Not wanting to stray from the financial benefits of the in-mold coating process, the OEM worked with the molder to develop an innovative 2-stage in-mold coating process, via the ProTek™ In-Mold System, in which a specially formulated clear coating is applied first to the open mold cavity, followed by the pigmented "top" coat layer. The result is a product with vastly improved gloss retention and weathering properties with a dramatic improvement in DOI (Distinctness of Image) and only a marginal increase in cost. Specifically, with regard to those benefits, ProTek™ Clear coating demonstrated better color and gloss retention than single stage top coat post paints and comparable performance to post applied 2-stage basecoat/clearcoat systems. ProTek-Clear 2-stage IMC also exceeds the OEM's 1-year accelerated weathering performance requirements for color retention and gloss retention even after the equivalent of 3-years of accelerated exposure!