



Case Study:

HANDSET BUILT FOR RAIL INDUSTRY CRITICAL COMMUNICATIONS - FAILURE NOT AN OPTION

Testimonial: *"BEC Group were instrumental to the Tuff Handset's success. Their collaborative approach invaluable from start to finish. From R&D through to their on-site tooling facility, they were flexible and quick to react, applying identified modifications when the product demanded it. Their technical prowess demonstrated by rigorous tool trials, always providing solutions so products conformed to strict rail industry standards."* **Steven Dade, [DAC Limited](#)**

PROJECT: DAC WEATHERPROOF, VANDAL-RESISTANT, CRITICAL [HANDSET](#)

Services: [Design for manufacture](#), R&D, specialist material sourcing and testing, [tool repair and modification](#), sub-assembly, insert moulding and overmoulding.

Our Client: The leading supplier of a wide range of weatherproof telephones, emergency telephones and help-points for rail networks globally.

Our Mission: To ensure the DAC handset adhered to extremely strict material flammability requirements whilst maintaining its intrinsic appearance, suitable for supplying to the UK (and overseas) [rail industry](#).

Working with the very complex nature of the material, to source, trial and test material that would not impact on the performance of a critical part and adhere to strict EN45545 certification for low smoke, zero halogen materials.

Throughout the project the [BEC team](#) had to keep a close eye on every process to ensure we kept control of the cost without compromising on quality. Quality being the key driver, to ensure compliance and the product's success.

BEC Solution:

Once the injection mould tools were moved to BEC, we followed a step by step approach:

1. Tooling brought in house.
2. Tooling repairs and modifications.
3. Sub-assembly of sensitive electrical internal component parts (wires).
4. [Overmoulding](#) of the internal components to ensure the handset had rigidity with the flexibility of TPE.
5. 100% trimming and inspection.
6. IR testing of the 4-wire handset.
7. Throughout the project at different stages, different materials were trialled and tested including different colour ways, to conform to standards: trialling and IR (Insulation Resistance) testing the DAC handsets.

8. Insert moulded.

The team applied their material knowledge, experience cross-sector. As well as tapping into R&D experiences from a previous rail sector project to quickly get to grips with the complexities of the materials, ensuring the efficacy of testing and trialling methods so the handset conformed quickly and accurately. Appreciating that failure to conform would cost lives so was not an option.

Result: BEC delivered quality DAC could trust. The handsets adhering to stringent UK rail industry requirements.

A unique, robust and vandal-resistant “[TUFF](#)” [handset](#) with a track record for reliability. Used throughout the world, often in safety critical applications, moulded in a robust polyurethane material for excellent durability, resistant in the toughest of situations. Without it the driver wouldn't be able to communicate in the most critical of scenarios.

As featured on their website: [The DAC TUFF HANDSET](#)- designed for resilience and longevity.

If you're looking for experience and technical know-how, get in touch. Simply call 01425 613131 or [email](#). We're happy to help!

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