

Atlas deutscher und ausländischer Seeflugzeuge.

THE ZEPPELIN-LINDAU 'DORNIER' FLYING BOATS

Compiled by Paul Leaman

THE ZEPPELIN-LINDAU flying boats are given full and very detailed coverage in both the excellent Windsock publication Datafile Number 136 under the title Dornier Flying Boats by Ray Rimell and in the earlier The German Giants by George Haddow and Peter Grosz. I make no apologies for including them in this Cross and Cockade series because pages relating to the Zeppelin-Lindau ZWR III appear in the 'Atlas' and thus the type (and the range) need to be covered to make our series complete. All of Dornier's 1914-1918 flying boats were purely experimental and none reached production status

Dr Ing Claude Honoré Desiré Dornier (the son of a French wine importer and his German wife) was born on 14 May 1884 in Kempten in Allau in Bavaria. He grew up there and attended the local school with science as his main interest. He later moved to Munich and graduated from that city's Technical University in 1907. His first employment was with *Maschinenbau-Gesellschaft Karlsruhe*, an engineering company manufacturing railway locomotives and wagons mainly under licence from other companies. Although the equipment had been designed elsewhere Dornier was employed to calculate the strengths of the components that were being made.

In 1910 he left this company and joined *Luftschiffbau Zeppelin* in Friedrichshafen on the Bodensee. Initially he worked on the design of the structure of an extremely large civil rigid airship¹ but his abilities attracted the attention of Graf Ferdinand von Zeppelin and led to him being appointed

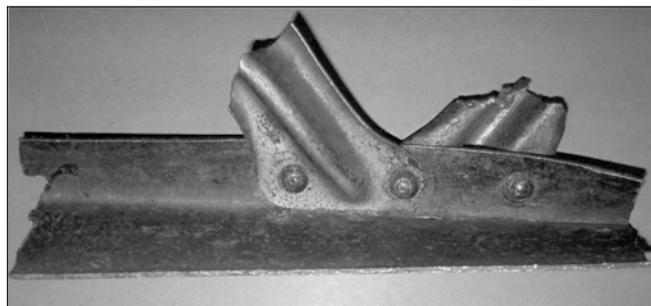
Claude Dornier



first as the count's personal assistant, and then to lead a team responsible for the design and construction of a series of large all metal flying boats² at a new establishment at Lindau on the shore of Lake Geneva. This new organisation was designated *Zeppelin-Werke Lindau GmbH* though the series of flying boats that it produced all bore the name 'Dornier'. The technology used in the design and construction of these 'giant' flying boats was based upon what Dornier had learned through his work on the design of the proposed airship and departed dramatically from the conventions of the period.

Instead of using wooden components – wing spars, ribs and struts; fuselage longerons and formers all with small metal fittings – they were mainly of thin steel sheet construction. In early 1914 high quality thin walled steel tubing was available but was difficult to join item to item as suitable welding techniques had yet to be satisfactorily developed (that was to come later with Anthony Fokker and Reinhold Platz). Aluminium alloys such as duralumin³ were available but were also in the early stages of development and, being prone to delamination and other weaknesses, not yet suitable for structural use. Dornier designed his structures to be fabricated from thin alloy steel sheet components that had been formed with a variety of cross sectional shapes to provide the necessary structural strength. With their flat surfaces these could safely be bolted or riveted together without the need for welding. The airframes of these flying boats were built up from these items and some duralumin sheets were used to cover the lower planing surfaces that would be in contact with the water. The rest of the airframe was covered, conventionally, with fabric.

Although extremely ingenious in their design and construction none of Dornier's 'Giant' flying boats was really more than experimental and none were to see active service



A surviving example of the metal structure, with components riveted to the each other. This piece was from a Zeppelin but is typical of the methods used by Dornier in the construction of his flying boats.

:CCI Archive

