The completion of the divertor of the WENDELSTEIN 7-X stellarator (W7-X) requires the delivery of 890 individual target elements (TEs), which span a total area of 19 m$^2$. Each element is designed to withstand a stationary heat flux of 10 MW/m$^2$ and to remove a maximum power of 100 kW. A TE consists of CFC Sepcarb® NB31 tiles bonded to watercooled CuCrZr copper alloy heat sink. The 14 different types of TEs are characterized by a length ranging between 250 and 600 mm and a width between 50 and 61.5 mm.

The pre-series activities aimed at qualifying the design, the manufacturing route and processes, the non-destructive examinations, and at defining the acceptance criteria for the serial fabrication. The final decision for launching the serial fabrication relies on the accumulated experience, and inspection, design, manufacturing route improvements resulting from the pre-series activities. Up to now three consecutive stages occurred:

- a planned first stage to validate the manufacturing route and to qualify the fabrication steps by the relevant inspections with dedicated probes;
- a second stage to assess the impact of the major amount of the delivered CFC, characterized by a reduced strength in the ex-pitch direction, on the bonding quality between CFC tiles and heat sink;
- a third stage to improve and to optimize the design based on finite element calculations and destructive examinations with dedicated probes, to select the most appropriate solution compatible with the industrial fabrication and the relevant non-destructive examinations throughout the manufacturing route and reception, and to adjust the acceptance criteria based on thermography methods and on high heat flux tests for the serial fabrication.

Modifications achieved during these activities and the consequent approach towards the serial fabrication will be presented.