This paper studies the application of commercial biocides to old maritime pine timber structures (Pinus pinaster Ait.) that have previously been impregnated with other products. A method was developed in the laboratory to be used in situ to determine the impregnation depth achieved by a new generation biocide product applied to timber from an old building. This timber had once been treated with an unknown product difficult to characterize without extensive analysis. The test was initially developed in laboratory conditions and later tested on elements of the roof structure of an 18th century building. In both cases the results were promising and mutually consistent with penetration depths for some treatments reaching 2.0 cm. The application in situ proved the tests viability and simplicity of execution giving a clear indication on the feasibility of possible re-treatments. (C) 2009 Elsevier Ltd. All rights reserved.