VGB PowerTech

Guideline

Tubes for Condensers and Other Heat Exchangers for the Operation of Steam Turbine Plants

Titanium

VGB-R 114e

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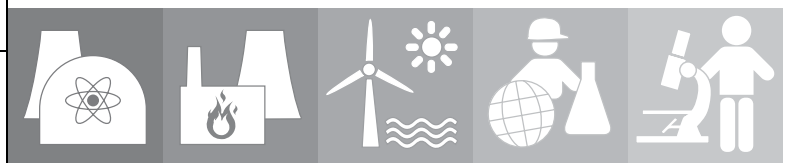

Preface

The "Tubes for condensers and other heat exchangers for the operation of steam turbine plants" guidelines are currently split into three material groups (VGB-R 106 "Copper Alloys", VGB-R 113 "Stainless Steels" and VGB-R 114 "Titanium").

The guidelines are intended to provide information to the operating company of combined heat and thermal power plants so that they can order the correct piping for condensers and heat exchangers and also to help them prevent faults and damage. To allow a better understanding and to assess pipe damage, the guidelines contain material-specific explanations and information in the form of photos illustrating typical damage symptoms.

Condensers and other heat exchangers in thermal power plants are practically always a part of a cooling water system with open circulation or once-through cooling. The suitability of metal tube materials and other materials or protective layers/coatings in the cooling system is determined from the corrosion-chemical behaviour of the available cooling water and also from economic and ecological aspects. These are dealt with in the VGB Cooling Water Guideline "VGB-R 455".

Many other VGB guidelines deal with the details of components in cooling systems. Apart from these, data from the VGB guideline "Kühltechnik in Kraftwerken - Cooling Technology in Power Plants", which is currently being drafted, should also be used.

The suitability of metal tube materials for condensers and other heat exchangers for the operation of steam turbine plants that are impinged with condensate or feed water is dealt with in the VGB Feed Water Guideline "VGB-R 450".

Please share your experiences in the use of this guideline with us - also in combination with other VGB guidelines - and send any proposed improvements to the VGB office.

From the group of operators and manufacturers, the following people were involved in compiling the new version of the guideline:

Mr Blomeier, Mr Czolkoss, Mr Daum, Mr Gérard, Mr Hahmann, Mr Hannig, Mr Hartwig, Dr. Kern, Mr Kurth, Dr. Leidich (Chairman), Mr Richter, Mr Seipp, Mr Stangel, Mr Zelinger, Ms Parczyk and Ms Ringhoff.

The Power Systems trade association within the VDMA

VDMA
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