

Book Review

Series of Books “Safety Diagnostics”

Under the General Editorship of V. V. Klyuev, Member of the Russian Academy of Sciences
Russian Society for Non-Destructive Testing and Technical Diagnostics, Moscow, Russia
In the Russian language

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Russian Society for Non-Destructive Testing and Technical Diagnostics presents the series of books “Safety Diagnostics” under the General Editorship of V. V. Klyuev, Member of the Russian Academy of Sciences.

1. Technical Diagnostics of Remaining Service Life and Safety. Makhutov N. A., Gadenin M. M.
2. Visual Inspection Control. Turobov B. V.
3. Radiation Testing. Artemiev B. V., Buklei A. A.
4. Ultrasonic Testing. Alioshin N. P., Bobrov V. T., Lange Yu. V., Shcherbinskiy V. G.
5. Eddy Current Testing. Fedosenko Yu. K., Shkatov P. N., Efimov A. G.
6. Vibration Diagnostics. Zusman G. V., Barkov A. V.
7. Thermal Testing. Budadin O. N., Vavilov V. P., Abramova E. V.
8. Magnetic Testing. Bakunov A. S., Gorkunov E. S., Shcherbinin V. E.
9. Magnetic Particle Testing. Shelikhov G. S., Glazkov Yu. A.
10. Optical Testing. Potapov A. I.
11. Radio-Wave Testing. Matveev V. I.
12. Acoustic Emission. Ivanov V. I., Bigus G. A., Vlasov I. E.
13. Liquid Penetrant Testing. Glazkov Yu. A.
14. Leak Testing. Evlampiev A. I., Popov E. D., Sazhin S. G., Sumkin P. S.
15. Certification of NDT Personnel. Klyuev S. V., Konovalov N. N., Kopytov S. G., Soloviova M. O. Metrology in Nondestructive Testing. Muravskaya N. P.
16. Combined Methods of Eddy-Current, Magnetic Particle and Electric Potential Testing. Klyuev S. V., Shkatov P. N. NDT Bibliography
17. Technical Means of Anti-Terrorist and Criminalistic Diagnostics. Kovaliov A. A., Kovaliov A. V.
18. Ecologic Diagnostics. Klyuev V. V., Nikolaev A. V., Kabanov M. V. et al.
19. NDT Enterprises in Russia
20. Degradation of Safety Diagnostics. Klyuev V. V.



Main problem of the world community consists in the provision of global, regional, national, municipal safety and safety of facilities. Obviously, this problem cannot be resolved without application of Technical Diagnostics (TD) and Non-Destructive Testing (NDT) means. Intensive industrial development continues all over the world. It is related not only with the growing volume of production and the range of released products, but with increased requirements to their quality as well. Provision of the product high quality is associated closely with improving of trustworthiness of non-destructive testing and technical diagnostics. It is difficult to overestimate the importance of provision of the high quality of products and reliable testing. Taking into account the scale of losses in extraordinary situations related with the extreme wear-and-tear (up to 80 %) of equipment, technogenic safety is an urgent problem. Therefore, permanent informational diagnostics of the remaining service life and estimation of operational risks is required.

In the age of rocket-and-space technology, nuclear power engineering and microelectronics, science and technology resolves safety tasks of various facilities in all industry branches without any exception.

Equipment failure can lead not only to the breach of operational conditions and the premature termination of the product operation, but also to associated material damage and serious consequences like explosion hazard, fire, environment poisoning and the tragic loss of human life.

Rational methods of testing and applied equipment can be determined on the basis of requirements to the specified performance, testing reliability, economic efficiency, safety, testing environment, etc.

At the stage of elaboration of the product manufacturing processes, technological steps should be identified correctly, where it is possible and reasonable to test individual components, sub-assemblies and assembled products, and the required attachment should be developed.

In the available literature, achievements in the NDT and TD field are generalized and systematized incompletely and are addressed insufficiently. To solve this problem, the series of training aids "Safety Diagnostics" representing the set of 20 manuals on all physical methods of nondestructive testing and technical diagnostics was issued. Its materials will allow all professionals to study the modern NDT and TD means and to use this knowledge in their work. Series of the present training manuals provides core definitions on these topics.

Manuals will be useful for practical work by specialists of enterprises and organizations in the processes of equipment designing, manufacturing and operation.

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