

Press Release

Rigaku Publishes Method for Measurement of Chromium on HDG Steel

The measurement of chromium (Cr) conversion coating on hot-dip galvanized (HDG) steel is demonstrated in a new application report from Applied Rigaku Technologies, Inc.

August 15, 2019 – Austin, TX. Aluminum and steel often have protective coatings to prevent oxidation and corrosion of the base metal. These conversion coatings include chromium (Cr), titanium, (Ti), vanadium (V), manganese (Mn), nickel (Ni) or zirconium (Zr). Applied as wet-coating, they even uniformly cover surfaces of components with irregular shapes. [Applied Rigaku Technologies, Inc.](#) has published a new application report that describes the measurement of chromium conversion coating on hot-dip galvanized steel by Energy Dispersive X-ray Fluorescence ([EDXRF](#)).

Aluminum is typically coated for use in aircraft parts, window frames and other industries where the aluminum is exposed to weathering. Steel for the automotive industry is typically first galvanized with a zinc coating before the conversion coating is applied. Coated steel is used for outdoor structures and similar uses where steel is exposed to weathering. Conversion coating also helps in the retention of paint for the final finished product.

For the analysis detailed in this report, measurements were performed using the [Rigaku NEX QC+](#) EDXRF analyzer. The instrument features a compact, rugged design with a touchscreen interface, and is designed to deliver heightened sensitivity and lower detection limits by utilizing direct excitation with proprietary filters.

The report demonstrates the utility of EDXRF analysis for such measurements and includes complete information about sample preparation, method calibration and repeatability. The results shown illustrate that the NEX QC+ analyzer provides excellent sensitivity and performance for the measurement of chromium conversion coatings on HDG steel.

A copy of the report may be requested at https://www.rigakuedxrf.com/app-notes.php?id=1904_AppNote



**Rigaku NEX QC + Energy Dispersive
X-ray Fluorescence Analyzer**



About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on life sciences and general purpose analytical instrumentation. With hundreds of major innovations to its credit, Rigaku and its subsidiary companies are world leaders in the fields of small molecule and protein crystallography, X-ray spectrometry and diffraction, X-ray optics, as well as semiconductor metrology. Rigaku employs over 1,400 people in the manufacture and support of its analytical equipment. Its products are in use in more than 90 countries – supporting research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial community.

For further information, contact:

Robert P. Bartek
President
Applied Rigaku Technologies
(+1) 512-225-1796
info@RigakuEDXRF.com

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