

# Cr (VI) Analysis by UH5300

## UH5300 Double -Beam Spectrophotometer

Hexavalent chromium (Cr (VI)) analysis of chromate plate by boiling extract  
In accordance with determination of certain substances in electrotechnical products (IEC 62321)



### Feature

- Xenon flash lamps as long-life light sources
- Best – of-class resolutions\*<sup>1</sup> at 1 nm has been achieved.
- Stable optical system by using double beam
- High-throughput measurement by using the 6-cell turret



UH5300

### Analysis for Chromate Plate Screw

#### Protocol

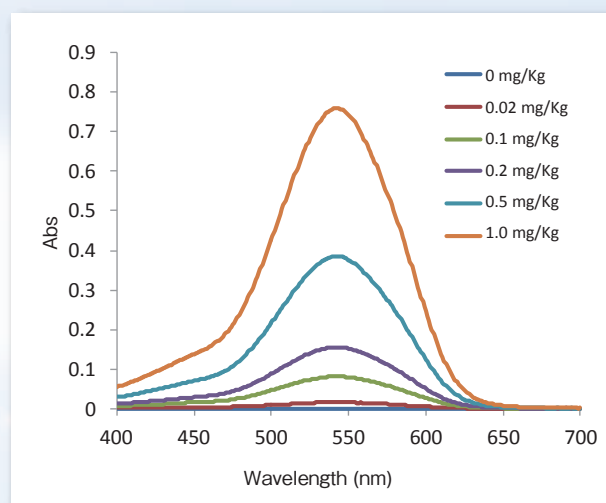
Sample : Surface area 50±5cm<sup>2</sup>

Extract in boiling water 10±0.5 min.  
Constant volume 50 mL

Orthophosphoric acid 1 ml  
Diphenylcarbazide solution\*<sup>2</sup> 2 ml

Measurement at 540 nm

※<sup>2</sup> : Diphenylcarbazide 0.5g in acetone 50 ml

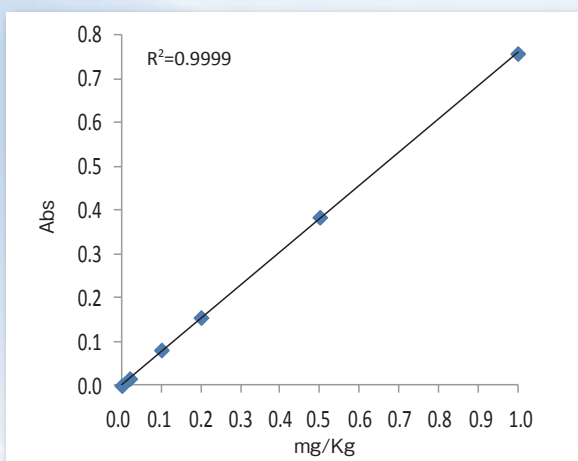


Absorption spectrum of Cr (VI)  
Addition Recovery Test

Sample	Addition (mg/Kg)	data (mg/Kg)	Recovery rate (%)
1	–	0.01	103.5
	0.02	0.03	
2	–	0.008	103.0
	0.02	0.029	
3	–	0.074	96.0
	0.02	0.093	
4	–	ND	94.6
	0.02	0.019	

Addition recovery test is good.

You can secure the reliability of the analysis level.



Calibration curve of Cr (VI)

※<sup>1</sup> : Investigation conducted by Hitachi High-Tech Science Corporation on system sold in Japan as of 2012.