

**Test Report**

No. 2635216-01

Date : 08/JUL/2013

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Pack Feindrahte  
 Rudolf Pack GmbH & Co. KG  
 Attn.: Mr. Exner  
 Am Bauweg 9-11  
 51645 Gummersbach  
 Germany



**The following samples were submitted and identified by/on behalf of the client as**

Order date : 14/JUN/2013  
 Order number : -  
 Sample receiving Date : 17/JUN/2013  
 Testing period : 17/JUN/2013 – 08/JUL/2013

Sample No	Sample designation
130511411	RUPOL V155 (copper wire) / RUPALIT V155 (litz wire made up of RUPOL V155)


Test requested : In accordance with the RoHS Directive 2011/65/EC and subsequent amendments  
 Test Method(s) : Testing with reference to IEC 62321 Ed. 1  
 (1) Determination of Cadmium by ICP-OES  
 (2) Determination of Lead by ICP-OES  
 (3) Determination of Mercury by CV-AAS  
 (4) Determination of Chromium by ICP-OES  
 (5) Determination of Chromium(VI) by photometry (metallic samples) or ion chromatography (plastic and electronic sample material)  
*Remark: Due to its highly reactive nature the concentration of Cr(VI) in a corrosion-protection changes drastically with time and storage conditions. The results obtained by IEC 62321 Ed. 1, 2008, B5 can therefore only give an indication of the presence/absence of Cr(VI) within the limitations of the method at the time of testing. Please refer also to the statement given in IEC 62321 Ed 1, B1.*  
 (6) Determination of PBB/PBDE by GC/MS  
*Remark: Please note that acc. to IEC the testing of metals for PBB/PBDE is gratuitous*

Test Result(s) : Please refer to next page(s)

Conclusion : Based on the performed tests on submitted sample(s), the test results of Lead, Mercury, Cadmium, hexavalent Chromium **comply with** the limits as set by RoHS Directive 2011/65/EC, Annex 2 and subsequent amendments

Signed for and on behalf of  
**SGS INSTITUT FRESENIUS GmbH**

i.V.   
 Wera Leonhard / ar  
 Projektleiterin / Project Manager

i.A.   
 Dr. Nadine Koch  
 Projektleiterin / Project manager

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### Test results by chemical method (Unit: mg/kg)

Sample No.		130511411		
Test Item(s):	Method (refer to)		RL	RoHS Limit
Cadmium(Cd)	(1)	n.d.	1	100
Lead (Pb)	(2)	n.d.	10	1000
Mercury (Hg)	(3)	n.d.	0,5	1000
Chromium, hexavalent (Cr(VI))	(5)	negative <sup>1</sup>	-	1000
<b>Sum of PBBs</b>	(6)	n.a.	-	1000
Monobromobiphenyl		n.a.	50	-
Dibromobiphenyl		n.a.	50	-
Tribromobiphenyl		n.a.	50	-
Tetrabromobiphenyl		n.a.	50	-
Hexabromobiphenyl		n.a.	50	-
Pentabromobiphenyl		n.a.	50	-
Heptabromobiphenyl		n.a.	50	-
Octabromobiphenyl		n.a.	50	-
Nonabromobiphenyl		n.a.	50	-
Decabromobiphenyl		n.a.	50	-
<b>Sum of PBDEs</b>		n.a.	-	1000
Monobromodiphenyl ether		n.a.	50	-
Dibromodiphenyl ether		n.a.	50	-
Tribromodiphenyl ether		n.a.	50	-
Tetrabromodiphenyl ether		n.a.	50	-
Pentabromodiphenyl ether		n.a.	50	-
Hexabromodiphenyl ether		n.a.	50	-
Heptabromodiphenyl ether		n.a.	50	-
Octabromodiphenyl ether		n.a.	50	-
Nonabromodiphenyl ether		n.a.	50	-
Decabromodiphenyl ether		n.a.	50	-

Note : mg/kg = ppm      n.d.= not Detected      RL = Report Limit      n.a.= not analyzed  
\*\* = elevated reporting limit due to matrix interferences

<sup>1</sup> "Negative" means a test result below 0,02 mg/kg in the boiling water extract with a sample area of 50cm<sup>2</sup> used. A "positive" test result indicates the presence of Cr(VI). The Cr(VI) concentration detected in the boiling-water-extract is equal or greater than 0,02 mg/kg with a sample area of 50cm<sup>2</sup> used.

# Test Report

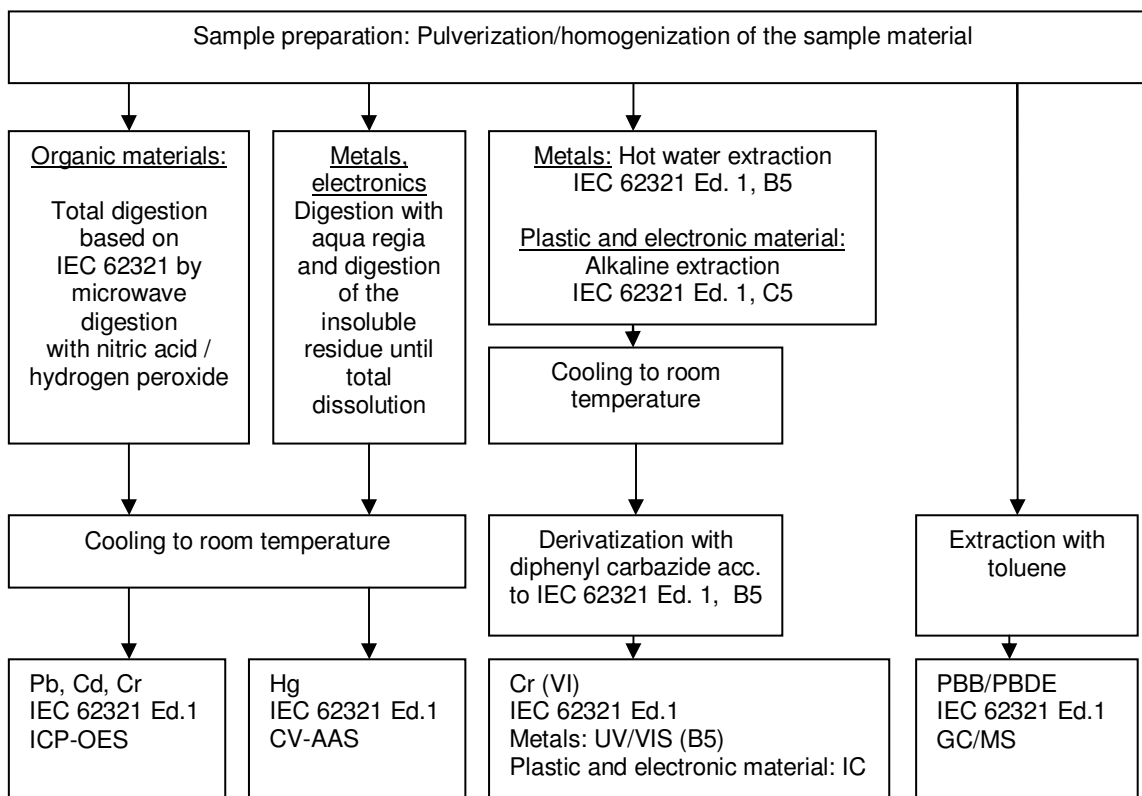
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## Flow Chart for the working flow of the performed analysis



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## Sample Photo(s)



\*\*\*End of Report\*\*\*