



No. 2635216-01

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

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Pack Feindrähte Rudolf Pack GmbH & Co. KG Attn.: Mr. Exner Am Bäuweg 9-11 51645 Gummersbach Germany



The following samples were submitted and identified by/on behan of the orient as						
Order date Order number Sample receiving Date Testing period	: 14/JUN/2013 : - : 17/JUN/2013 : 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 Test Method(s)	<ul> <li>In accordance with the RoHS Directive 2011/65/EC and subsequent amendments Testing with reference to IEC 62321 Ed. 1</li> <li>(1) Determination of Cadmium by ICP-OES</li> <li>(2) Determination of Lead by ICP-OES</li> <li>(3) Determination of Mercury by CV-AAS</li> <li>(4) Determination of Chromium by ICP-OES</li> <li>(5) Determination of Chromium (VI) by photometry (metallic samples) or Ion chromatography (plastic and electronic sample material) <u>Remark:</u> 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.</li> <li>(6) Determination of PBB/PBDE by GC/MS <u>Remark</u>: Please note that acc. to IEC the testing of metals for PBB/PBDE is gratuitous</li> </ul>					
Test Result(s)	: Please refer to next page(s)					
Conclusion	<ul> <li>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</li> </ul>					

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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SGS INSTITUT FRESENIUS GmbH

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Die Prüfergebnisse beziehen sich auf die untersuchten Proben. Die Veröffentlichung und Vervielfältigung unserer Prüfberichte und Gutachten zu Werbezwecken sowie deren auszugsweise Verwendung in sonstigen Fällen bedürfen unserer schriftlichen Genehmigung. Alle Dienstleistungen werden auf Grundlage der anwendbaren Allgemeinen Geschäftsbedingungen der SGS, die auf Anfrage zur Verfügung gestellt werden, erbracht. Member of the SGS Group (Société Générale de Surveillance)





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

Sample No.		130511411		
Test Item(s):	Method (refer to)		<u>RL</u>	<u>RoHS Limit</u>
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
Sum of PBBs	(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	-
Sum of PBDEs		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	1	n.a.	50	-
Hexabromodiphenyl ether	1	n.a.	50	-
Heptabromodiphenyl ether	1	n.a.	50	-
Octabromodiphenyl ether	1	n.a.	50	-
Nonabromodiphenyl ether	1	n.a.	50	-
Decabromodiphenyl ether		n.a.	50	-

Note : mg/kg = ppm

pm n.d.= not Detected

RL = Report Limit

n.a.= not analyzed

\*\*= elevated reporting limit due to matrix interferences

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<sup>&</sup>lt;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.





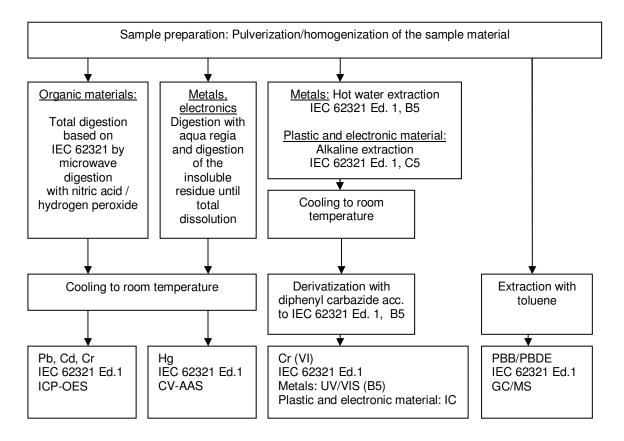
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#### Flow Chart for the working flow of the performed analysis



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#### Sample Photo(s)



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

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