



# Certificate of Conformity

Reg. No: CA11PR223

We state that, on the basis of technical documentation, the Company:

**SBC Linear Co., Ltd.**

**Address:**

#830-1, Songma-Ri, Daegot-Myeon, Kimpo-City,  
Korea

has been verified for the presence of the documents required by:

**2011/65/EU Restriction Of the use of Hazardous Substances Directive**

for the following Product:

**SBC #15 Type**

Brand name:

**N/A**

Model:

**SBI 15 FL, SBG 15 FL, SBI 15 FLL, SBI 15 SL, SBG 15 SL, SBS 15 SL, SBI 15 SLL, SBI 15 HL, SBI 15 HLL,  
SBI 15 HLS, SBI 15 FV, SBS 15 FV, SBI 15 SV, SBS 15 SV**

Reference documentation:

**Test Report No: ETLRD111110.38 (Dec. 13. 2011)**

*This attestation is subject to CERMET ASIA regulations and it is valid only for the above mentioned Restriction Of the use of Hazardous Substances Directive.*

*This attestation, different from an EC Certificate, counts as Attestation of conformity to be used by first part.*

Issue date: Dec. 16. 2011

Last revised date: N/A

Expiry date: N/A

Revision: 0

Page: 1 of 1

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# RoHS TEST REPORT

European Directive 2011/65/EU

Evaluation of RoHS Requirements for Electrical and Electronic Equipment

Test report No..... : ETLRD111110.38

Issue of date ..... : Dec 13, 2011

Test of period ..... : Nov 14, 2011 ~ Dec 12, 2011

Applicant's name ..... : SBC Linear Co.,Ltd.

Address..... : #830-1, Songma-Ri, Daegot-Myeon, Kimpo-City, Korea

Test item description ..... : SBC #15 Type

Applied Model..... : SBI15 FL, SBG15 FL, SBI15 FLL, SBI15 SL, SBG15 SL, SBS15 SL,  
SBI15 SLL SBI15 HL, SBI15 HLL, SBI15 HLS, SBI15 FV, SBS15 FV,  
SBI15 SV, SBS15 SV

Test Specifications :

Directive..... : 2011/65/EU

Test Standard(s)..... : IEC 62321 ; 2008

Non-standard test method. : See Page 3

Evaluation Result : The equipment which was evaluated has fulfilled with requirement of

2011/65/EU Directive for the materials :

Pb, Cd, Hg, Cr(VI) PBBs, and PBDEs

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Also this publication represent for the evaluation results of the issued test item only - any type of EEE, i.e. full product, module assembly, component or material including RoHS test result.

The evaluation results means only the tested item is complied with RoHS requirement according to the evaluation procedures which is described in this publication.

Tested by : Kyung Jun, Choi

Reviewed By : Yeon Chan, Kang



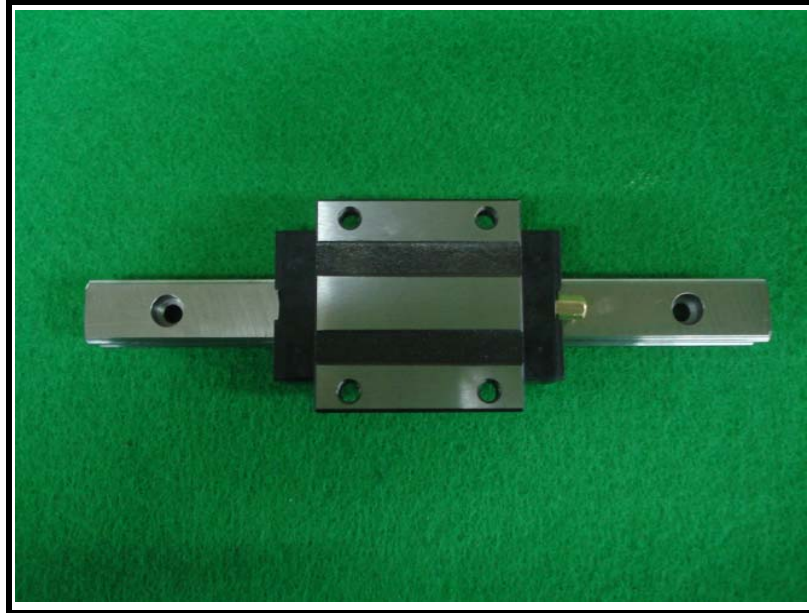

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| Clause | Requirement - Test                                                                                                                                                                                                                                                                                                                                                                                      | Result               | Verdict |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------|
| 1      | RoHS Compliance based on test reports                                                                                                                                                                                                                                                                                                                                                                   |                      |         |
| 1.1    | Review of component's test reports according to BOM                                                                                                                                                                                                                                                                                                                                                     |                      | P       |
| 1.1.1  | Dose evaluated product is composed by components which is listed in BOM?                                                                                                                                                                                                                                                                                                                                | Checked              | P       |
| 1.1.2  | Dose each components is complied with the requirement of employed directive or manufacturer declared limits?                                                                                                                                                                                                                                                                                            | Checked              | P       |
| 1.2    | Review of verification test reports according to sampling                                                                                                                                                                                                                                                                                                                                               |                      | P       |
| 1.2.1  | If it was performed the item 1.1, did sampling was performed in appropriate?                                                                                                                                                                                                                                                                                                                            | Refer to Appendix II | P       |
| 1.2.2  | If it was not performed the item 1.1, did it was fully considered the materials of component and does it was performed the sampling which is enough to represent the characteristics of population?                                                                                                                                                                                                     |                      | N/A     |
| 1.2.3  | Is it complied with the requirements of employed directive or manufacturer declares limits for sample tested?                                                                                                                                                                                                                                                                                           |                      | P       |
| 1.3    | Requirements of test report                                                                                                                                                                                                                                                                                                                                                                             |                      | P       |
| 1.3.1  | Is it included the information of manufacturer, sample, test lab or etc?                                                                                                                                                                                                                                                                                                                                | Refer to Appendix II | P       |
| 1.3.2  | Is it clearly specified the test object as the port of components or product?                                                                                                                                                                                                                                                                                                                           |                      | P       |
| 1.3.3  | Is it described the information of directive or standards of test methods?                                                                                                                                                                                                                                                                                                                              |                      | P       |
| 1.3.4  | Is it described the results with accurately for interpretation, using or etc?                                                                                                                                                                                                                                                                                                                           |                      | P       |
| 1.3.5  | Is it confirmed the validity of test equipment and information of calibration?                                                                                                                                                                                                                                                                                                                          |                      | P       |
| 1.4    | Other information                                                                                                                                                                                                                                                                                                                                                                                       |                      |         |
|        | IEC 62321 : 2008<br>Pb : US EPA 3052,3050B, ISO 4192-81, ASTM D 4004, ASTM E 350, ASTM E 352, ISO 4749, ISO 6101-2 etc.<br>Cd : US EPA 3052,3050B, EN 1122, ASTM E 350, ISO 5690, ASTM E 352, ASTM E 34-94, ASTM D 4004, ASTM D 3335 etc.<br>Hg : US EPA 3052, JIS H 1066, ASTM E 350, ASTM E 352 etc.<br>Cr(VI) : US EPA 3060A, ISO 3613, USEPA 7196A etc<br>PBB/PBDE : US EPA 3540C, USEPA 8270D etc. | Test methods used    |         |

## Appendix I

### Photos of product



#15 FL TYPE Front view



#15 FL TYPE Rear view



## Appendix I

### Photos of product



#15 SL TYPE Front view



#15 SL TYPE Rear view

## Appendix I

### Photos of product



Package 1



Package 2

## Appendix II

### Test method & Lab information

#### 1. General

1.1 Employed standard : IEC 62321 : 2008

1.2 Applied sampling criteria

- Kind of components could be disassembled mechanically by using disassembly tools
- High risk components

#### 2. Laboratory Information

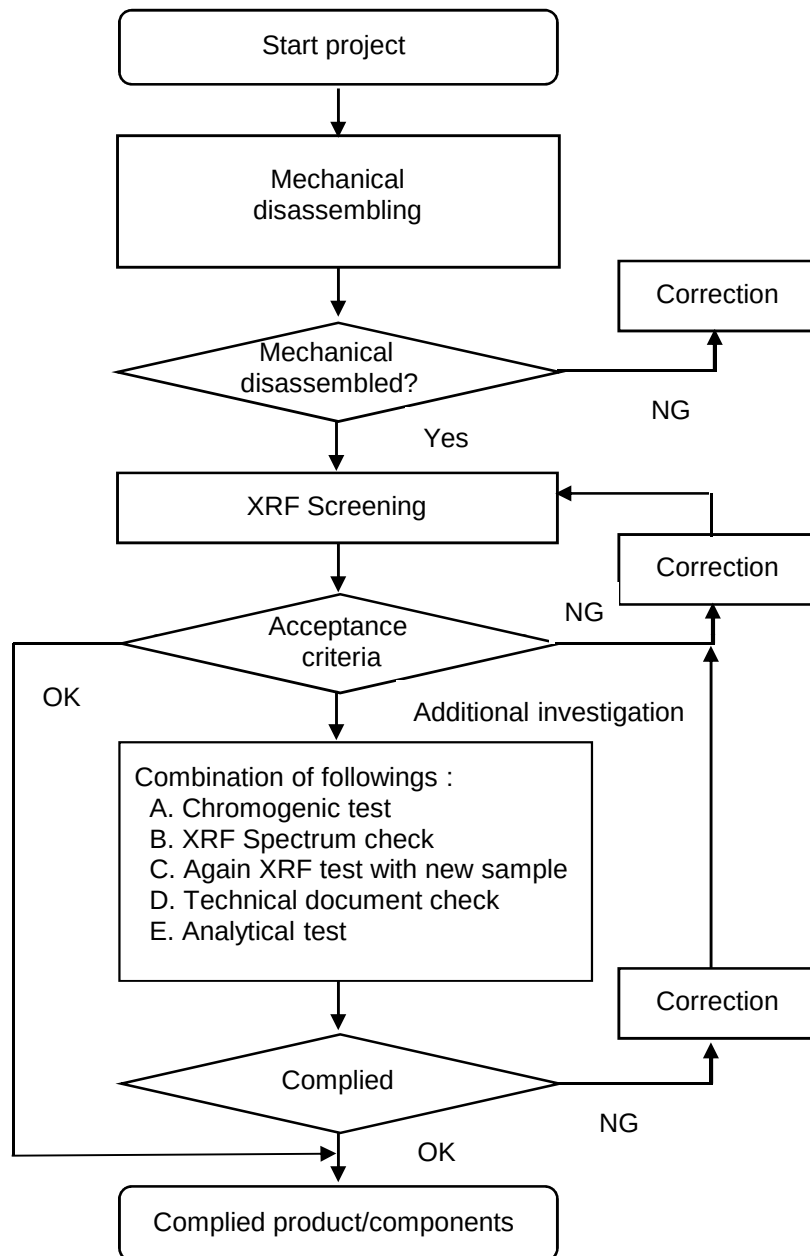
- Laboratory's Name : ETL Inc.
- Address : # 371-51 Gasan-dong, Geumcheon-gu, Seoul, 153-803 Korea
- Facilities used : ED-XRF SEA-1000A/Seiko

#### 3. Product Remark

- ETL Inc tested the SBC #15 Type which was selected by applicant.
- The model SBI15 FL is the basic model that was tested.
- The applied model SBG15 FL, SBI15 FLL, SBI15 SL, SBG15 SL, SBS15 SL, SBI15 SLL, SBI15 HL, SBI15 HLL, SBI15 HLS, SBI15 FV, SBS15 FV, SBI15 SV, SBS15 SV are identical to basic model, except for that the size and shape are different.



## Appendix III Verification Test Results

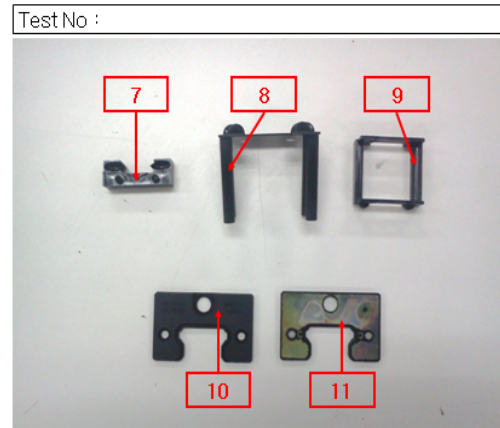
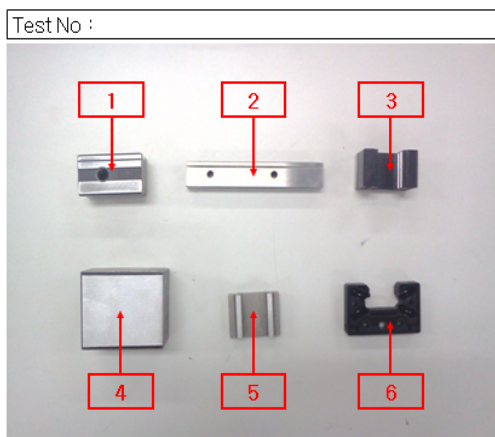


Note : - Basic acceptance criteria of XRF screening is 50% of MCV(Maximum Concentration Value) which is defined in 2011/65/EU RoHS Directive

- The additional investigation procedures are taken where doubtful test result for XRF screening
- For maintaining product quality, the comparison and verification are required between analytical test reports and XRF screening results if possible

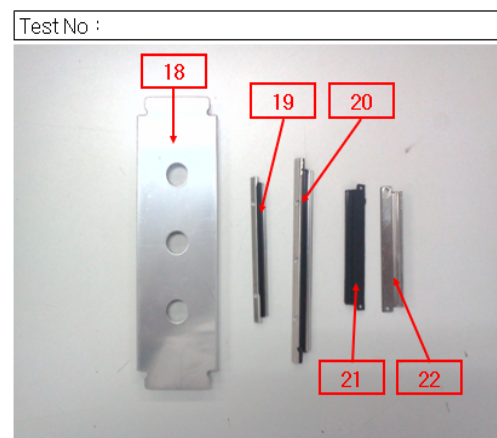
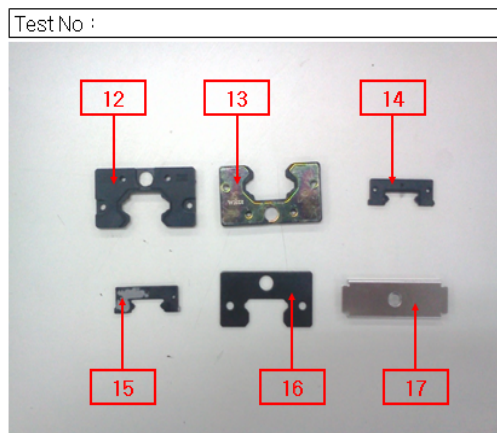
## Appendix III Verification Test Results

| No | Part name                | Supplier                | XRF Data (mg/kg) |     |    |     |        | Investigation Procedure | Result |
|----|--------------------------|-------------------------|------------------|-----|----|-----|--------|-------------------------|--------|
|    |                          |                         | Cd               | Pb  | Hg | Br  | Cr     |                         |        |
| 1  | LINEAR RAIL              | ILJIN                   | 3                | 117 | 0  | N.A | 1456   | Cr - Type A             | Pass   |
| 2  | LINEAR RAIL (miniature)  | Kuroda                  | 0                | 1   | 0  | N.A | 105530 | Cr - Type A             | Pass   |
| 3  | LINEAR BLOCK             | SINSUNG FORGED INDUSTRY | 0                | 99  | 0  | N.A | 14815  | Cr - Type A             | Pass   |
| 4  | LINEAR BLOCK             | Korea forged            | 0                | 49  | 0  | N.A | 12772  | Cr - Type A             | Pass   |
| 5  | LINEAR BLOCK (miniature) | Kuroda                  | 0                | 60  | 31 | N.A | 122180 | Cr - Type A             | Pass   |
| 6  | END PLATE                | DAE SUNG TECH           | 0                | 6   | 1  | 9   | 0      | N.A                     | Pass   |
| 7  | END PLATE (miniature)    | Dong san ELECTRON       | 0                | 0   | 2  | 1   | 1      | N.A                     | Pass   |
| 8  | BALL GUIDE               | DAE SUNG TECH           | 4                | 9   | 0  | 21  | 0      | N.A                     | Pass   |
| 9  | BLOCK GUIDE (miniature)  | Dong san ELECTRON       | 0                | 0   | 3  | 0   | 0      | N.A                     | Pass   |
| 10 | END SEAL                 | Yuchun industry         | 0                | 16  | 0  | 39  | 0      | N.A                     | Pass   |
| 11 | END SEAL Press           | DAE HYUN TECH           | 0                | 0   | 0  | N.A | 6286   | Cr - Type A             | Pass   |



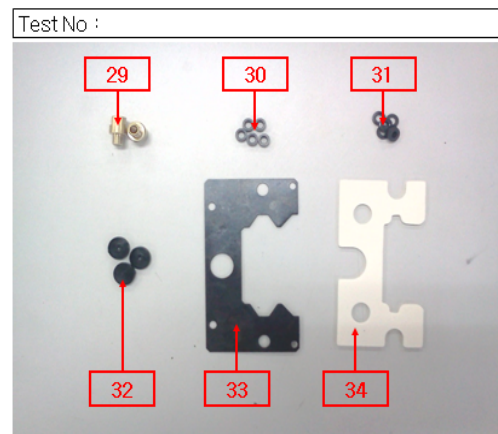
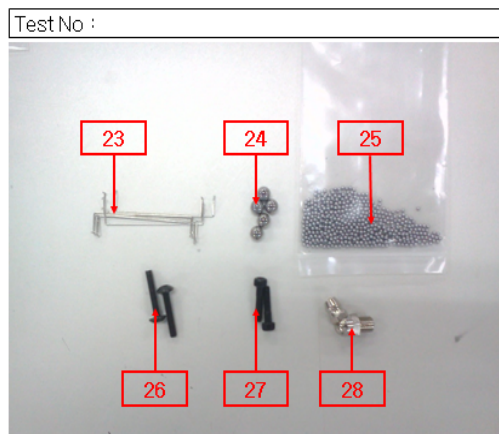
## Appendix III Verification Test Results

| No | Part name                  | Supplier           | XRF Data (mg/kg) |     |    |      |        | Investigation Procedure    | Result |
|----|----------------------------|--------------------|------------------|-----|----|------|--------|----------------------------|--------|
|    |                            |                    | Cd               | Pb  | Hg | Br   | Cr     |                            |        |
| 12 | END SEAL                   | KOOKJE CHEMICALS   | 0                | 6   | 0  | 53   | 0      | N.A                        | Pass   |
| 13 | END SEAL Press             | Cheonseong precise | 0                | 25  | 0  | N.A  | 4413   | Cr - Type A                | Pass   |
| 14 | END SEAL (miniature)       | Shinchang tech     | 2                | 3   | 32 | 0    | 4      | N.A                        | Pass   |
| 15 | END SEAL Press (miniature) | Jung dae tech      | 0                | 0   | 0  | N.A  | 1674   | Cr - Type A                | Pass   |
| 16 | SCRAPPER                   | DAE HYUN TECH      | 3                | 15  | 0  | N.A  | 1582   | Cr - Type A                | Pass   |
| 17 | U-BENDING                  | Cheonseong precise | 0                | 0   | 0  | N.A  | 173476 | Cr - Type A                | Pass   |
| 18 | U-BENDING                  | Jung dae tech      | 0                | 37  | 0  | N.A  | 172232 | Cr - Type A                | Pass   |
| 19 | RETAINER NBR               | Yuchun industry    | 0                | 85  | 80 | N.A  | 171661 | Cr - Type A                | Pass   |
| 20 | RETAINER NBR               | Sin chang tech     | 0                | 35  | 35 | N.A  | 180624 | Cr - Type A                | Pass   |
| 21 | RETAINER NBR               | KOOKJE CHEMICALS   | 4                | 54  | 0  | 1740 | 1641   | Cr - Type A<br>Br - Type D | Pass   |
| 22 | RETAINER Press             | DAE HYUN TECH      | 0                | 156 | 0  | N.A  | 180112 | Cr - Type A                | Pass   |



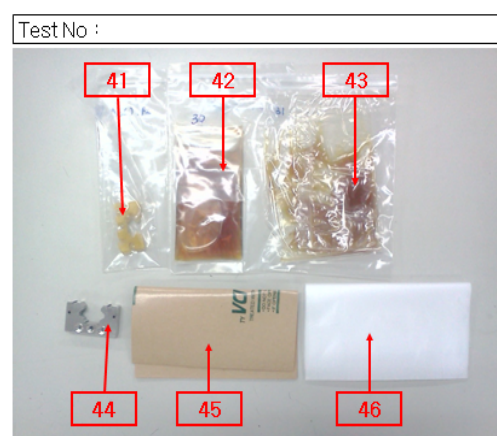
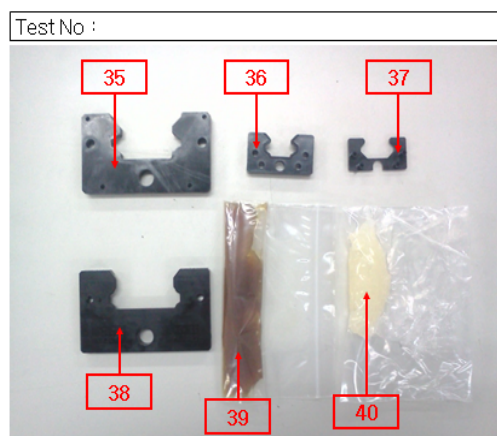
## Appendix III Verification Test Results

| No | Part name                  | Supplier          | XRF Data (mg/kg) |       |      |     |        | Investigation Procedure                         | Result |
|----|----------------------------|-------------------|------------------|-------|------|-----|--------|-------------------------------------------------|--------|
|    |                            |                   | Cd               | Pb    | Hg   | Br  | Cr     |                                                 |        |
| 23 | RETAINER (miniature)       | Jung dae tech     | 0                | 0     | 2    | N.A | 193024 | Cr - Type A                                     | Pass   |
| 24 | Chrome Steel Ball Bearings | Trafalgar         | 2                | 106   | 0    | N.A | 14247  | Cr - Type A                                     | Pass   |
| 25 | STEEL BALL (miniature)     | TSUBAKI           | 0                | 67    | 0    | N.A | 16197  | Cr - Type A                                     | Pass   |
| 26 | SCREW                      | A-SUNG ENTERPRISE | 0                | 0     | 2339 | N.A | 14103  | Hg - Type B<br>Cr - Type C, A                   | Pass   |
| 27 | SCREW                      | ASIA BOLT         | 0                | 3260  | 0    | N.A | 0      | Pb-Exempted<br>Pb in Fe alloy                   | Pass   |
| 28 | NIPPLE                     | Jaemin precise    | 7                | 7142  | 0    | N.A | 0      | Pb-Exempted<br>Pb in Cu alloy                   | Pass   |
| 29 | CONNECT                    | A-SUNG ENTERPRISE | 0                | 23555 | 1    | N.A | 70     | Pb-Exempted<br>Pb in Cu alloy                   | Pass   |
| 30 | Bolt Washer                | A-SUNG ENTERPRISE | 0                | 1141  | 0    | N.A | 8426   | Pb-Exempted<br>Pb in Fe alloy<br>Cr - Type C, A | Pass   |
| 31 | Bolt Washer                | ASIA BOLT         | 3                | 109   | 0    | N.A | 504    | Cr - Type A                                     | Pass   |
| 32 | HOLE-CAP                   | DAE SUNG TECH     | 1                | 2     | 0    | 2   | 1      | N.A                                             | Pass   |
| 33 | MF COVER                   | DAE HYUN TECH     | 0                | 8     | 0    | N.A | 2227   | Cr - Type A                                     | Pass   |
| 34 | R Contact Seal             | KOOKJE CHEMICALS  | 0                | 2     | 0    | 2   | 2      | N.A                                             | Pass   |



## Appendix III Verification Test Results

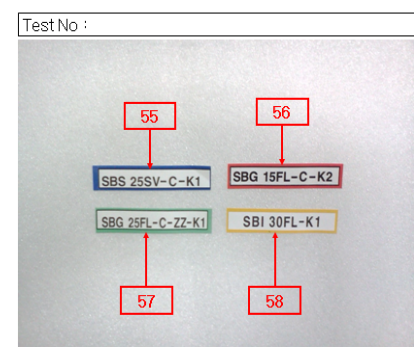
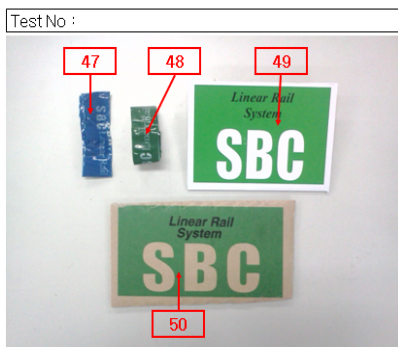
| No | Part name            | Supplier                | XRF Data (mg/kg) |    |    |    |     | Investigation Procedure | Result |
|----|----------------------|-------------------------|------------------|----|----|----|-----|-------------------------|--------|
|    |                      |                         | Cd               | Pb | Hg | Br | Cr  |                         |        |
| 35 | MF SEAL POCKET       | KOOKJE CHEMICALS        | 0                | 0  | 0  | 0  | 0   | N.A                     | Pass   |
| 36 | TIGHT SEAL           | KOOKJE CHEMICALS        | 0                | 0  | 0  | 0  | 0   | N.A                     | Pass   |
| 37 | PLATE                | KOOKJE CHEMICALS        | 9                | 0  | 1  | 2  | 0   | N.A                     | Pass   |
| 38 | MF Container         | Dong san ELECTRON       | 0                | 7  | 1  | 2  | 1   | N.A                     | Pass   |
| 39 | Grease               | Kyongin lubricating oil | 0                | 0  | 0  | 0  | 0   | N.A                     | Pass   |
| 40 | Grease               | NTG KOREA               | 0                | 1  | 0  | 0  | 0   | N.A                     | Pass   |
| 41 | Grease               | SKY International       | 4                | 0  | 0  | 1  | 0   | N.A                     | Pass   |
| 42 | Rust Preventive Oil  | Kyongin lubricating oil | 0                | 0  | 0  | 0  | 0   | N.A                     | Pass   |
| 43 | Fluid film           | Euraka korea            | 1                | 0  | 0  | 0  | 0   | N.A                     | Pass   |
| 44 | Aluminium End Plate  | MYUNGJIN TECH           | 0                | 9  | 0  | 0  | 324 | N.A                     | Pass   |
| 45 | Rust-Free paper      | Hyubshin packing        | 1                | 1  | 0  | 4  | 0   | N.A                     | Pass   |
| 46 | LAnticorrosive Vinyl | Hyubshin packing        | 0                | 1  | 0  | 1  | 0   | N.A                     | Pass   |



## Appendix III

### Verification Test Results

| No | Part name              | Supplier         | XRF Data (mg/kg) |    |    |    |    | Investigation Procedure | Result |
|----|------------------------|------------------|------------------|----|----|----|----|-------------------------|--------|
|    |                        |                  | Cd               | Pb | Hg | Br | Cr |                         |        |
| 47 | Packing Tape - Blue    | Hyubshin packing | 0                | 8  | 9  | 0  | 0  | N.A                     | Pass   |
| 48 | Packing Tape - Green   | Hyubshin packing | 2                | 0  | 0  | 0  | 0  | Type C                  | Pass   |
| 49 | Block IN Box           | Color packing    | 0                | 8  | 0  | 9  | 0  | N.A                     | Pass   |
| 50 | Block OUT Box          | Color packing    | 0                | 11 | 0  | 7  | 0  | N.A                     | Pass   |
| 51 | Packing Box            | Color packing    | 4                | 12 | 1  | 8  | 0  | N.A                     | Pass   |
| 52 | P.P Band               | HANKOOK POJANG   | 0                | 2  | 0  | 0  | 0  | N.A                     | Pass   |
| 53 | Air Cap                | Ywon packing     | 0                | 0  | 0  | 1  | 0  | N.A                     | Pass   |
| 54 | Packing VINYL          | Ywon packing     | 10               | 17 | 0  | 15 | 0  | N.A                     | Pass   |
| 55 | BLOCK STICKER (BLUE)   | JEIL PRITING     | 3                | 1  | 34 | 0  | 0  | N.A                     | Pass   |
| 56 | BLOCK STICKER (RED)    | JEIL PRITING     | 0                | 4  | 0  | 3  | 0  | N.A                     | Pass   |
| 57 | BLOCK STICKER (GREEN)  | JEIL PRITING     | 8                | 0  | 0  | 11 | 0  | N.A                     | Pass   |
| 58 | BLOCK STICKER (YELLOW) | JEIL PRITING     | 0                | 0  | 0  | 26 | 0  | N.A                     | Pass   |





## Appendix III Verification Test Results

| No | Part name                              | Supplier   | XRF Data (mg/kg) |     |    |     |        | Investigation Procedure | Result |
|----|----------------------------------------|------------|------------------|-----|----|-----|--------|-------------------------|--------|
|    |                                        |            | Cd               | Pb  | Hg | Br  | Cr     |                         |        |
| 59 | LINEAR RAIL                            | SELOANT    | 0                | 139 | 0  | N.A | 29018  | Cr - Type A             | Pass   |
| 60 | LINEAR RAIL                            | RAYKO PLUS | 0                | 167 | 0  | N.A | 15525  | Cr - Type A             | Pass   |
| 61 | LINEAR RAIL (miniature)                | SELOANT    | 0                | 32  | 50 | N.A | 173296 | Cr - Type A             | Pass   |
| 62 | LINEAR RAIL (miniature)                | RAYKO PLUS | 2                | 9   | 0  | N.A | 132875 | Cr - Type A             | Pass   |
| 63 | LINEAR BLOCK (SINSUNG FORGED INDUSTRY) | SELOANT    | 0                | 0   | 0  | N.A | 36865  | Cr - Type A             | Pass   |
| 64 | LINEAR BLOCK (SINSUNG FORGED INDUSTRY) | RAYKO PLUS | 5                | 0   | 0  | N.A | 26363  | Cr - Type A             | Pass   |
| 65 | LINEAR BLOCK (Koreaforged)             | SELOANT    | 4                | 44  | 0  | N.A | 33288  | Cr - Type A             | Pass   |
| 66 | LINEAR BLOCK (Koreaforged)             | RAYKO PLUS | 0                | 55  | 13 | N.A | 21698  | Cr - Type A             | Pass   |
| 67 | LINEAR BLOCK (miniature)               | SELOANT    | 0                | 41  | 26 | N.A | 136389 | Cr - Type C, A          | Pass   |
| 68 | LINEAR BLOCK (miniature)               | RAYKO PLUS | 6                | 41  | 0  | N.A | 117296 | Cr - Type A             | Pass   |

~ ~ THE END ~ ~

