Statement of Conformity

INTRON Certificatie B.V. herewith declares that the factory production control system of

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Has been checked against chapter 6.3 of the guideline EN 14388 and a positive result was assigned to this Factory Production Control

Furthermore INTRON Certificatie B.V. performed a random check of products regarding road traffic noise reducing devices. These products has been checked against the guideline EN 14388. The result of this assessment shows that all checked products have been performed according to the requirements, which is mandatory for CE marking based on EN 14388.

Culemborg, 29th September 2009

INTRON Certificatie
ing. R. Woonink

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This statement of conformity is valid for 3 years

INTRON CERTIFICATIE

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ASSESSMENT PRODUCTION NOISE REDUCING DEVICES: VAN CAMPEN

according to EN 14388 and additional quality issues

Final report

Opdrachtgever / Client

Van Campen Aluminium Productie B.V.
t.a.v. de heer J.A. Van Campen
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Ons kenmerk / Our reference D000800/R20090241/JMo/J

Autorisatie / Authorisation ing. R. Woonink

Datum / Date 25 september 2009

Auteur / Author ing. J. van Montfort

INHOUDSOPGAVE

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1. INTRODUCTION

Van Campen Aluminium Productie b.v., further in this document named: Van Campen, designs, produces and installs noise reducing devices according to EN 14388. According to this standard an attestation of conformity system 3 is applicable. This means that initial type testing shall be carried out by a notified test laboratory and factory production control by the manufacturer (Van Campen). Fully according to EN 14388, Van Campen has demonstrated compliance with annex ZA of EN 14388. Van Campen retained a declaration of conformity (EC Declaration of conformity) which entitles Van Campen to affix the CE marking on their products.
One of the main strategies of Van Campen is to design and produce products in such a way that early damage is prevented. Therefore additional (non mandatory) quality labels are gained and additional quality actions are taken (project specific).
Van Campen commissioned INTRON b.v. to carry out an assessment as an independent and impartial expert and notified body to validate Van Campens' mandatory and non mandatory declarations.

Goal
The main goal of this assessment was to assess as an independent and impartial expert and notified body whether the basis for Van Campens' declarations of conformity (mandatory and non mandatory) are sound and solid according all the EN 14388 requirements (private and public law). On top of that additional quality issues are assessed on their contribution to prevent early damage and rise of the quality level.
The assessment will be repeated each year.

2. ASSESSMENT

September 24th 2009 two INTRON experts: Mr. Ing. Oscar Terheijden and Mr. Ing. Jo van Montfort carried out an audit at the production location in Lelystad, The Netherlands. As Subject of the assessment a recent and promiment project was chosen by INTRON: "Heymans geluidschermen A2".
For the mandatory issues, based on table 2 of EN 14388 INTRON assessed all separate tests issues as follows:

1. Check availability in terms of a report.
2. Check whether these report were drawn up by a notified laboratory.
3. Judge content of reports according to requirements of EN 14388 and referred standards.

Regarding the non mandatory issues INTRON:

1. Checked which additional quality labels were relevant and valid.
2. Judged whether these additional quality labels minimize the chance of early damage (improvements in terms of performance in service life).

Based on the findings an expert opinion and recommendations were given.

3. EVALUATION

The following table shows an evaluation of all mandatory EN 14388 issues.

Table 1. Mandatory issues

characteristic	**Report Available?**	**Notified lab.?**	**According to EN 14388?**	**remarks**
Mandatory issues according to EN14388, annex ZA				
Sound absorption EN 1793-1	Y	Y	Y	DLα=20 dB(A)
Airborne sound insulation EN 1793-2	Y	Y	Y	DL_R=28 dB
Wind and static loading EN 1794-1, 2003, Annex A	Y	Y	Y	Calculations are carried out according to Dutch documents are comparable to or heavier than EN standards **
Dynamic load from snow clearance EN 1794-1, 2003, Annex E	Y	Y	Y*	Calculations are carried out according to Dutch documents are comparable to or heavier than EN standards**
Self weight EN 1794-1, 2003, Annex B	Y	Y	Y*	Calculations are carried out according to Dutch documents are comparable to or heavier than EN standards
Danger of falling debris EN 1794-2, 2003, Annex B	Y	Y	Y	compliance with class 6 was proven
Light reflection EN 1794-2, 2003, Annex E	Y	Y	Y	Declared values for Eindhoven project: 11,0 – 13,2
Release of dangerous substances				Covered by SKG certificate and own declaration
Durability acoustic	N	N		Declaration and warranty of supplier of sound absorping materials (Rockwool)
Durability non acoustic	Y	Y	Y	Calculations , tests and quality certificates on separate issues such as welding and corrosion protection

*) All structural calculations were carried out by qualified engineers of MUC and according to Dutch regulations; MUC declares that all calculations are comparable to the requested EN standards or even heavier.

**) The declared values form structural calculation for the Eindhoven project (an example) are given in table 2

Table 2. Declared values from structural calculations for the Eindhoven project (example)

	Height Noise barrier	
	3m	6m
Dry weigh	3.9 kN	6.1 kN
Reduced wet weigh	4.0 kN	6.2 kN
Maximum vertical load an element can withstand:	1.4 kN/m[1]	2.0 kN/m[1]
Normal load an element can withstand due to wind and static	0.95 kN/m[2]	0.95 kN/m[2]
Normal load an element can withstand due to wind, static external and self weight	0.95 kN/m[1]	0.95 kN/m[1]
Bending moment at ground level a structure element can withstand	13.4 kNm	53.5 kNm
Normal load an acoustic element can withstand due to snow clearance	8.9 kN/m[2]	17.8 kN/m[2]

The next table, Table 3 shows an evaluation of all non mandatory EN 14388 issues.

Table 3. Non Mandatory issues

Characteristic	**Report Available?**	**Notified lab.?**	**According to EN 14388?**	**remarks**
Non Mandatory issues according to EN14388				
Impact of Stones EN 1794-1, 2003, Annex C	Y	Y	Y	General report covering all applications of aluminum and PPMA
Safety in Collision (vehicle occupant safety) EN 1794-1, 2003, Annex D	N	N	N	Optional requirement and not requested for projects so far
Safety in Collision (combined safety and noise barrier) EN 1794-1, 2003, Annex D	N	N	N	Optional requirement and not requested for projects so far
Resistance to brush fire EN 1794-2, 2003, Annex A	Y	Y	Y	No performance determined for this project. However evidence was available of fire testing on other projects
Environmental protection EN 1794-2, 2003, Annex C				Covered by ALU ECO certificate
Means to escape EN 1794-2, 2003, Annex D				Covered by SKG certificate for making doors and facades
Transparency EN 1794-2, 2003, Annex F	N	N	N	No performance determined
Diffraction index improvement CEN/TS 1793-4	N	N	N	No performance determined

As part of the EN 14388 INTRON has checked the Factory Production Control (FPC). The organization has an implemented management system based on ISO 9001 for the scope:

- Manufacure of curved aluminium constructions and products.
- Bending of technical profiles.
- Manufacture of noice barriers

The scope is relevant for the organization. Basis of assessment of the FPC was the ISO 9001 audit report and supplementary data. The assessment is based on random checks and results are shown in the table below.

Table 4. FPC Issues

FPC subject	**According to EN 14388 paragraph**	**Assessment result**
FPC Issues		
FPC General	6.3.1.	The manufacturer improves its effectiveness of FPC to ensure that the products placed on the market conform to the stated performance characteristics. The manufacturer documents all relevant information and records in a project file. The project file provides evidence that the final product meet the requirements of the EN 14388
Equipment	6.3.2	Where relevant, equipment is maintained, inspected and calibrated by qualified personnel. Substantial modifications on equipment is documented and where relevant the equipment will be re-inspected.
Raw material and components	6.3.3	Where relevant the manufacture performs inspections on purchased products to verify that they meet the requirements. Records are maintained.
Design process	6.3.4	Verification and validation of design has be done by qualified personnel. The manufacturer can provide calculations for all critical elements of design.
Product testing and evaluation	6.3.5	The manufacturer has a system to monitor, measure and analyze process parameters during the production. These records are maintained. The manufacturer performs a test and evaluation program to verify that the product requirements have met.
Non-conforming products	6.3.6.	Non conforming products are identified. Unless explicit agreed with the awarding authority the organization will prevent that these products are used or placed on the market. The manufacturer has a procedure how to deal with complaints. The manufacturers identifies and determines the causes, take and implement corrective actions and inform the customer.

All relevant reports and quality labels which are the basis for this assessment are listed in annex A and are available for further inspection in requested.

Additional Quality labels/certificates and actions

INTRON confirms that Van Campen possesses the following valid national (Nl) quality certificates:

- SKG certificaat (Façades)
- VMRG keurmerk (Corrosion protection aluminum)
- Iloyd's certificaat (ISO 9001:2008)
- Additional (own initiative) unexpected inspection of welding and others

During the assessment INTRON was convinced that during production sufficient and thoroughly tests and inspections were carried out in relation to mainly the non acoustic durability issues.
Test were not only carried indoors but also unexpected and frequently outdoors at suppliers of coatings and welding of components.

4. CONCLUSIONS

The assessment demonstrated that Van Campen has carried out all relevant mandatory tests and calculations to demonstrate compliance with EN 14388. We also conclude that all tests were carried out by notified laboratories.
Regarding the non mandatory issues of EN 14388 we conclude that the most relevant issues were determined for the type of products Van Campen puts on the market. Furthermore the FPC has been established and implemented and meets the requirements of EN 14388.
We confirm that the basis for Van Campens' declarations of conformity (mandatory and non mandatory) are sound and solid and according to all mandatory EN 14388 requirements.

On top of that additional quality issues were carried out as more or less standard procedures of producing noise reducing devices. As experts in this field we can confirm that these provisions most certainly will have a positive contribution to prevent early damage and as a consequence provide a rise of the quality level.

5. RECOMANDATIONS

Based on the assessment INTRON has made the following recommendations for further improvement:

1. Start each project with an overview/summary of all mandatory and non mandatory declarations as well as additional quality issues
2. Carry out all calculations according to the EN standards

The above mentioned recommendations are not binding.

ANNEX A LIST OF DOCUMENTS USED BY INTRON

Test reports

1. MUC report, 06-5783, deel 1, rev 0, dd 22 februari 2007, A. Timmermans
2. TNO-rapport MON-RPT-033-DTS-2007-00014, Luchtgeluidisolatie van een Van Camepn scherm; project Eindhoven, sjanuari 2007, ing. F.J.W. Biegstraaten
3. TNO-rapport MON-RPT-033-DTS-2007-00013, Geluidabsorptie van een Van Camepn scherm; project Eindhoven, sjanuari 2007, ing. F.J.W. Biegstraaten
4. KOAC-WMD, Testcertificaat betrefende het onderzoek van geluischermwand, steenworptest, 4 0ktober 1999, H. Roetert
5. COT, Kwaliteitsinspectie op geanodiseerd aluminium betreffende aluminium sloof (bakken) project: geluidschermen A2 Eindhoven, 6 april 2009, E.H. Elderman
6. MME Group, Las oppervlakte onderzoek, rapportrnr. 09RB211, 24 september 2009, ABouyazdouzen
7. MME Group, Las oppervlakte onderzoek aluminium sloof (project Eindhoven), rapportnr. 09RB211, 24 juni 2009, A. Bouyazdouzen
8. MME Group, Weld surface examination (project Eindhoven), rapportnr. 09R30042, 27 februari 2009, M. Bloos
9. MME Group, Visueel onderzoek sloof (project Eindhoven), rapportnr. 09140042, 24 februari 2009, J.J. Visser
10. MME Group, Las oppervlakte onderzoek aluminium sloof (project Eindhoven), rapportnr. 09140043, 24 februari 2009, J.J. Visser
11. OFti Technology&Innovation gmbh, PMMA-sheets Plexiglas Soundstop GS CC: Impact testing according to prEN 1794-2:2002 annex B, 7 mei 2003, reportno. 300.161/k-e
12. LRQA, ISO 9001:2008 Surveillance audit report RQA9932212-0012, 10th February 2009

Certificates

13. Komo attest-met-productcertificaat, SKG'08.10.102, aluminium gevelelementen voor de toepassing als gevelvulling in uitwendige scheidingsconstructies, geldig tot 15 december 2013
14. EG-conformiteitscertificaat 0960-CPD-102, Aluminium raamsysteem overeenkomstig de Nationale BRL 2701:2007, 01, juni 2009.
15. VMRG Keurmerk, Aluminium, geldig tot 31 januari 2010.
16. Alu Eco Certificaat, recylcing bouw aluminium, geldig tot 31 januari 2010
17. Llyod's iso 9001 certificaat