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# Test Report

## EN 812 : 1997

Report no: 05.02.06  
Client: INSPEC Certification Services  
Upper Wingbury Courtyard  
Wingrave  
Aylesbury  
Buckinghamshire  
HP22 4LW  
Client order: TS04/2584  
Order(s) received: 27 October 2004 to 28 January 2005  
Manufacturer: Voss Helme GmbH & Co. KG  
Model: Voss-Cap modern style  
Date(s) tested: 1 November 2004 to 7 December 2004

### Conditions:

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Opinions, comments and interpretations expressed herein are outside the scope of UKAS accreditation are shown in italics in this report. INSPEC interpretations are referenced in this report and copies are available upon request.

Tests marked ☒ are not included in the UKAS accreditation schedule for INSPEC.

Samples will be disposed of within one month of this report unless alternative instructions are received.

Checked: .....  
T. D. SEDDON

Approved: .....  
A. NELSON

Issued: 9 February 2005

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**Stated product characteristics**

Clause ref.	Option	Claim made
5.2.1	Very low temperature	-20°C
5.2.2	Resistance to flame	Not claimed
5.2.3	Electrical properties	Not claimed

**Sample details**

Product	Submitter	Quantity	Received	INSPEC no. (P679+)
Voss-Cap modern style industrial bump cap	Manufacturer	10	21 Oct. 04	01 to 10

Samples were selected from the submission detailed above, randomly where possible.

**Procedures**

Testing was performed in accordance with EN812 : 1997 incorporating amendment No. 1, unless specified below.

Where required, performance testing was carried out using headform K, as determined in accordance with Clause 6.4.2.



**Summary of assessment\***

Clause		Samples	Result
4.1	Materials and construction	01 and 02	Pass
4.2	Cradle	01 and 02	NAP
4.3	Comfort band or sweatband	01 and 02	NAP
4.4	Retention	01 and 02	Pass
4.5	Headband/nape strap	01 and 02	Pass
4.6	Chin strap	01 and 02	NAP
4.7	Ventilation	01 and 02	NT
4.8	Accessories	01 and 02	NAs
5.1.1	Impact protection	01 to 04	Fail
5.1.2	Resistance to penetration	05 to 08	Pass
5.1.3	Chin strap anchorages (1)	08	NAP
5.2.1	Very low temperature (-20°C or -30°C) - optional	09 and 10	Fail
5.2.2	Resistance to flame - optional		
5.2.3	Electrical properties – optional		
7.1	Markings on the bump cap		NT
7.2	Additional information to be supplied by the manufacturer		NT

**Key**

	Highlighting shows the clauses requested for each model. Any other clauses were not requested.
Pass	Requirement satisfied.
Ltd	Testing requested was insufficient to completely verify compliance with clause. Refer to the "Result detail" section for more information.
Fail	Requirement not satisfied. Refer to the "Result detail" section for more information.
NAs	Assessment requested but not carried out.
NAP	Requirement not applicable.
NT	Requested but not tested due to early termination following failure.

\* Assessment relates only to those items tested in this report.

(1) INSPEC Interpretation applies

**Result detail****4.1 Materials and construction**

The bump cap consisted of a smooth shell enclosed by an outer covering. The bump cap incorporated means to absorb the energy of an impact.

The effects of any materials which would come into contact with the wearer when worn were not assessed. Manufacturer to certify. **NAs**

No parts of the samples submitted had sharp edges, roughness or projections likely to cause injury to the wearer when the samples were worn.

The adjustable section of the headband at the rear of the helmets could be adjusted without the use of tools.

The helmets had no replaceable parts.

The adjustable parts of the samples were designed so that, when in normal use, inadvertent adjustment was not possible.

**4.5 Headband/napestrap**

The adjustable section of the headband at the rear was designed such that adjustments of less than 5mm were possible.

**5.1.1 Impact protection****Fail****Force transmitted**

*acc. to /  
made  
EN812:1997*  
*acc. to /  
made  
EN812:2001*

Sample	01	02	03	04
Condition	-10°C	WET	UV	+50°C
30° - Front <i>1.0.10k (kN)</i>	2.19 ✓	2.24 ✓	2.24 ✓	3.17 ✓
30° - Back <i>1.0.10k (kN)</i>	6.00 ✓	7.46 ✓	10.1 ✓	13.1 ✓
60° - Front (kN)	15.4	9.80	20.6	19.8
60° - Back (kN)	22.9	21.8	25.0	23.9
Limit (kN)	≤15			

**5.1.2 Resistance to penetration**

Sample	05	06	07	08
Condition	-10°C	WET	UV	+50°C
Contact	No ✓	No ✓	No ✓	No ✓



## 5.2.1 Very low temperature

Force transmitted

Fail

Sample		10
Condition		-20°C
30° - Front	i.o./o.k.(kN)	1.85 ✓
30° - Back	i.o./o.k.(kN)	3.02 ✓
60° - Front	(kN)	18.6
60° - Back	(kN)	21.2
Limit	(kN)	≤15

acc. to /  
nach  
EN 812:1987  
acc. to /  
nach  
EN 812:2001

Resistance to penetration

Sample	09
Condition	-20°C
Contact	No

optional

Product labelling, in accordance with Clause 7.2.2, indicating compliance with the very low temperature requirements at -20°C was provided incorrectly - labelled -20° only (no C).

Fail

## **ANNEX**

This Annex comprises two sections.

1. Product photographs - 1 page.
2. Estimates of the uncertainty of measurement - 1 page.

**EN 812 : 1997****Estimates of the uncertainty of measurement**

Clause	Test	Uncertainty
4.2	Cradle	0.9%
4.3	Comfort band or sweatband	0.9%
4.5	Headband / Napestrap	0.9%
4.6	Chin strap	0.9%
4.7	Ventilation	1.3%
5.1.1	Impact protection	1.2%
5.1.3	Chin strap anchorages	2.1%
5.2.1	Impact protection	1.2%
5.2.2	Impact protection	1.2%
5.2.3	Electrical insulation	(2.9%+0.1mA)

Values expressed as a percentage (%) are relative.

It should be noted that the above values have not been taken into account when making assessment to the pass/fail criteria.



Voss Helme GmbH & Co. KG's model Voss-Cap modern style industrial bump cap

