

January 6, 2022

Cornelius Schneider  
Project Manager, MCR, Construction Services  
Bruce Power B72  
Tiverton, Ontario  
Canada  
N0G 2T0

Dear Mr. Schneider:

This letter serves to inform you that the Gentex PureFlo ESM+ PF60 Powered Air Purifying Respirator (PAPR) system meets the protective headwear requirement listed in Section 22(2)(b) of Ontario Regulation 213/91 for Construction Projects.

The shell of the PureFlo ESM+ PF60 withstands a Class E level dielectric strength test at 20,000 volts in compliance with Section 22(2)(b) of this Regulation. Please find enclosed a third-party test performed at ICS Laboratories, Inc. as verification of our conformity with the Class E hard hat standard.

Should you be in need of any additional information regarding this matter, please contact Dustin Levy via email at [dlevy@gentexcorp.com](mailto:dlevy@gentexcorp.com) or via phone at 1-908-235-8385.

Sincerely,  
GENTEX CORPORATION



Dustin Levy  
VP, Industrial Safety

Enclosure: T13238-01-1 Test Report Issue 1.pdf



Test Report # T13238-01-1 Issue 1  
ANSI/ISEA Z89.1 – 2014 Custom R&D  
Gentex Corporation  
PureFlo PF60 ESM+ - PAPR Helmet Assembly  
06 June 2019



Approved by:

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Sarah Henderson  
Head Protection, Hand Protection &  
Athletic Equipment - Laboratory Manager

Prepared by:

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Julianne Embry  
Head Protection & Athletic Equipment -  
Laboratory Administrative Assistant

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- b) The contents of this test report are confidential. Reproduction of the report is prohibited except in full, unless approved in writing by ICS Laboratories, Inc.
- c) Unless otherwise indicated, the test results contained in this report apply only to the samples tested and not to lots or batches from which they were taken.
- d) Where applicable, test data provided by subcontractor is uniquely identified in the test report.
- e) Where applicable, test data not covered under our ISO/IEC 17025 Accreditation is uniquely identified in the test report.

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**ICS Laboratories, Inc. • 1072 Industrial Parkway North • Brunswick, Ohio 44212 USA**  
**Phone: 330.220.0515 Fax: 330.220.0516**

Issued to: Gentex Corporation  
 324 Main Street  
 Simpson, PA 18407  
 USA

Date: 06 June 2019  
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**Objective:**

Custom R& D contract testing to ANSI/ ISEA Z89.1-2014 “American National Standard for Industrial Head Protection”.

- Clause 7.1.2; Force Transmission (Partial)
- Clause 7.1.4.3; Electrical Insulation Class E

**Sample(s):**

PureFlo PF60 ESM+ - PAPR Helmet Assembly

Description	Qty	Date Code	Material	Date Received	Sample ID
PAPR with Ratchet Suspension (4 pt.) (Black/Grey)	2	3/19	Not Present on Product	16 May 2019	8A-x
	1	9/14		Transferred from Respiratory Dept.	8B-x
PAPR with Ratchet Suspension (4 pt.) (Hi Viz Yellow)	1	01/2018			

**Procedures:**

Testing protocols in accord with good laboratory practice were employed unless otherwise specified, for all tests.

Testing procedures as specified within Section 10 of ANSI/ ISEA Z89.1-2014 were followed.

Testing was performed at room temperature 23°C ± 3°C (73.4°F ± 5.4°F) per ANSI/ ISEA Z89.1 – 2014.

**Equipment:**

- Cadex Twin Wire Test Platform
- Envirotronics Model FLX900 Environmental Conditioning Chamber
- Cadex Impact Software V6.9U
- Hanco Dielectric Strength Chamber

**Assessment Summary:**

Date Tested: 21 May 2019 & 03 June 2019  
 Test Performed By: David Petit – Test Engineer

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**Results:**

**7.1.2 Force Transmission**

Sample ID	Conditioning (°C)	Velocity (m/s)	Force (N)	Specified Value (N)	Observations	Pass	Fail
8A-1	49 ± 2	5.51	2527	≤ 4450	-	X	
8A-2		5.52	2475		-	X	
Average				2501	≤ 3780		X
8A-3	-18 ± 2	5.50	2539	≤ 4450	-	X	
8B-1		5.51	2175		-	X	
Average				2357	≤ 3780		X
Specification:		5.50 ± 0.05					

Observations:  
 (-) No observation

**7.1.4.3 Electrical Insulation Requirements (Class E)**

Sample ID	Leakage (mA)	Burn Through (Yes/ No)	Observations	Pass	Fail
8A-1*	3.9	No	-	X	
8A-2*	4.8	No	-	X	
8A-3*	3.5	No	-	X	
8B-1*	3.8	No	-	X	
Specification:	Class E: ≤ 9 mA	No Burn Through Allowed			

Class E - 20,000 volts, 60 Hz, 3 minutes, 30,000 volts no burn through.

Observations:  
 (-) No observation

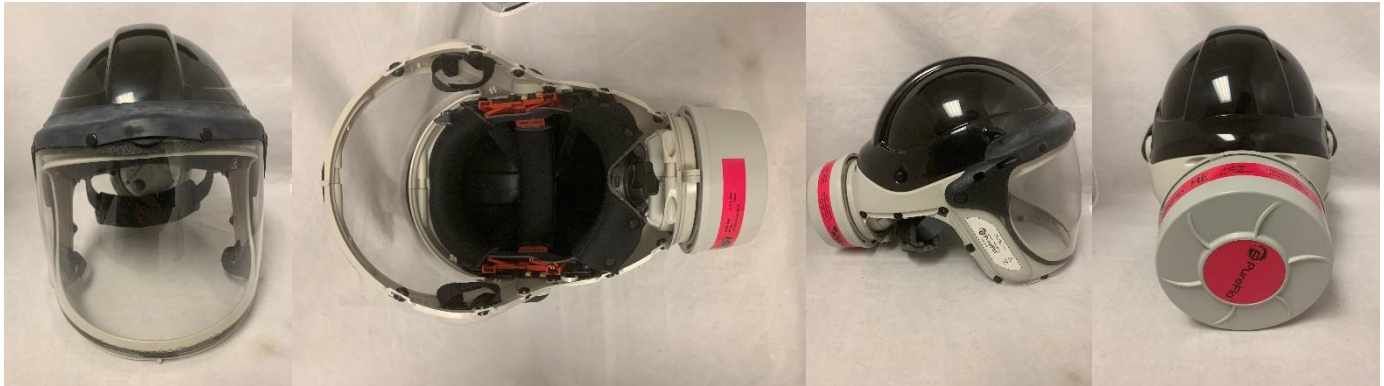
\*Note: Deviation of test line. Test line lowered past bolt holes to test material.

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**Sample Photographs:**

8A



8B



## TERMS AND CONDITIONS

1. Client acknowledges that ICS Laboratories (ICS) performs testing services only as specified by Client. ICS does not design, warrant, supervise or monitor compliance of products or services except as specifically agreed to in writing. By their very nature, testing, analysis, and other ICS services are limited in scope and subject to expected measurement variability.
2. Client or Client's authorized representative shall be afforded the opportunity to clarify test requests and reasonable access to monitor test work, provisional to protecting the confidentiality of other clients.
3. ICS shall keep documents and information related to Client confidential and will not disclose any such information to third parties without Client permission. ICS will, however, disclose any such information in response to compulsory legal process after providing Client with a copy of such process.
4. ICS Reports apply only to the standards or procedures identified therein and to the sample (s) tested and or inspection (s) made. Test and/or inspection results are not indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products.
5. ICS Test Reports and their insignia are for the exclusive use of the Client. Reports, in their entirety, may be utilized at the discretion of Clients and/or their authorized agents for purposes including, but not limited to, research & development, recordkeeping, product packaging, educational and promotional materials in various formats, certification, and compliance. As an accredited independent testing laboratory, ICS maintains an interest in preventing the misrepresentation of the contents of its test reports. As such, Clients may NOT use, reproduce or otherwise disseminate excerpted, partial, redacted or otherwise altered ICS test reports without the prior review of such use by ICS and the granting of its written approval. Further, Clients are prohibited from manipulating data and/or extrapolating-from-it statistics or conclusions that contradict or eclipse the empirical results of testing as reflected by the totality of the report. Clients are to refrain from utilizing ICS Test Reports and/or the ICS logo in a manner that suggests any extra-report conclusions are provided and/or endorsed by ICS Laboratories.
6. Any use by Client of ICS's Reports or the information contained therein is conditioned on timely payment of all fees.
7. The name(s) listed as the "Issued to" party on test reports may not reflect the actual entity submitting and/or contracting the assessment.
8. ICS shall retain copies of testing job files (including reports) for a period of at least six (6) years and when applicable, evidentiary test samples for the length of time as deemed appropriate after which time they may be disposed of at management's discretion. If Client requests additional copies of Reports during this period, an additional charge will apply for the preparation and delivery of such reports.
9. Test reports are valid for certification purposes for one year from date of issue, inclusive of retest or variant additions which must be performed within one year of date of issue to avoid full retest.
10. Client is responsible for procuring, at its cost, insurance protecting the value of its property and samples.
11. For the safety of our personnel, Client must advise if samples are known or suspected to contain hazardous substances. Safety Data Sheets must be provided upon request if available.
12. ICS represents that Services shall be performed within the limits agreed with Client, and in a manner consistent with good laboratory practice. **NO OTHER REPRESENTATIONS TO CLIENT, EXPRESS OR IMPLIED, AND NO WARRANTY OR GUARANTEE IS INCLUDED OR INTENDED IN THIS**
13. ICS hereby objects to any conflicting terms contained in any order or acceptance submitted by Client.
14. Schedules are confirmed upon acceptance of quotation. All reasonable efforts will be made to comply with conferred schedule. Guarantees are neither implied nor promised.
15. Certain work may be subcontracted to ICS authorized affiliate laboratories as required or applicable. Client will be made aware of subcontracted work.
16. Client agrees to pay any and all additional costs associated with unexpected or above-standard communications and/or consultations with Client or third parties as designated by Client.
17. Client agrees to pay any and all additional costs for work additional to the original scope of work as agreed to by Client.
18. Client understands and agrees that ICS, in entering into this Contract and by performing services hereunder, does not assume, abridge, abrogate or undertake to discharge any duty or responsibility of Client to any other party or parties. No one other than Client shall have any right to rely on any Report or other representation of conduct of ICS and ICS disclaims any obligations of any nature whatsoever with respect to such person.
19. Client agrees, in consideration of ICS undertaking to perform the test(s) hereunder, to protect, defend and indemnify ICS from any and all claims, damages, expenses either direct or consequential for injuries to persons or property arising out of or in consequence of the performance of the testing, inspection and reporting hereunder and/or the performance of the products tested or inspected hereunder, **UNLESS CAUSED BY THE NEGLIGENCE OF ICS.**
20. **IT IS AGREED THAT IF ICS SHOULD BE FOUND LIABLE FOR ANY LOSSES OR DAMAGES ATTRIBUTABLE TO THE SERVICES HEREUNDER IN ANY RESPECT, ITS LIABILITY SHALL IN NO EVENT EXCEED THE AMOUNT OF THE FEE PAID BY CLIENT FOR SUCH SERVICES AND CLIENT'S SOLE REMEDY AT LAW OR IN EQUITY SHALL BE THE RIGHT TO RECOVER UP TO SUCH AMOUNT.**
21. Quotations are valid for 30 days from date of issue. Terms: 30% Laboratory/Testing fees invoiced and payable upon acceptance of quotation. Remaining fees invoiced and payable upon completion of services, 15 days net. Cancelled jobs will be invoiced for work performed and/or set-up costs incurred. Cancelled Purchase Orders are subject to 10% service charge. Shipping costs incurred by ICS will be invoiced at cost +10% handling fee. A minimum USD \$25.00 handling fee will be also invoiced. For shipping costs incurred by Client, ICS will invoice a minimum USD \$25.00 handling fee.
22. In the event that payment is not received within 15 days of invoice date, Client agrees to pay a late payment charge on the unpaid balance equal to 1-1/2% per month or the maximum charge allowed by law, whichever is less, and all costs and expenses, including attorney's fees where recovery of the same is not prohibited by law, incurred by ICS in collecting such invoices.
23. All costs associated with compliance with any subpoena (s) for documents, testimony in a court of law, or for any other purpose relating to work performed by ICS in connection with work performed for that Client, shall be paid by Client. Client shall also pay ICS's then existing standard fee for consulting, deposition and trial testimony and all expenses related thereto.
24. Cancelled/discontinued orders: Client responsible for all administrative and testing charges up to point of cancellation.