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# FRÄSCH!
# TEST REPORT

**SCOPE OF WORK**
CDPH 01350 Standard Method Version 1.2 on 9MM PET

**REPORT NUMBER**
105988494GRR-001a

**ISSUE DATE**
25-November-2024

**PAGES**
11

**DOCUMENT CONTROL NUMBER**
Per GRVOC-RT-050a (03-June-2024)


4700 Broadmoor Ave SE, Suite 200
Kentwood, MI 49512

Telephone: +1 616 656 7401
www.intertek.com

# TEST REPORT FOR FRÄSCH!

Report No.: 105988494GRR-001a
Date: 25-November-2024
P.O.: N/A

## SECTION 1

## CLIENT INFORMATION

Attention: Gary Nightingale
Fräsch!
1425 Avenue R
Grand Prairie, TX 75050 USA
Phone: +1 972-898-4444
Email: gn@frasch.com

**Natalie Carter**
**Project Engineer**

**Logan Albertson**
**Project Reviewer**

## SECTION 2
## SUMMARY AND CONCLUSION

| | |
|---|---|
| Test Method: | Standard Method Version 1.2 for CDPH 01350 |
| Modeling Scenario: | Private office (PO), school classroom (SC) and single family residence (R) |

### CLIENT PROVIDED SAMPLE INFORMATION

| | |
|---|---|
| Manufacturer / Location | Fräsch! / Grand Prairie, TX USA |
| Product Name | 9MM PET |
| Product Number | Not Specified |
| Product Description | Acoustic Noise Control, 100% Polyethylene Terephthalate |
| Date of Manufacture | 16-October-2024 |
| Date of Collection | 17-October-2024 |
| Date of Shipment | 17-October-2024 |

### DESCRIPTION OF SAMPLES

| | |
|---|---|
| Date Received by Lab | 25-October-2024 |
| As Received Sample Condition | Good Condition |
| Lab Sample ID | GRR241025000B |
| Material Submitted | Five (5) Samples |

### WORK REQUESTED/APPLICABLE DOCUMENTS

| | |
|---|---|
| VOC Emissions Analysis: | CDPH Standard Method v1.2 |
| Intertek Quote: | Qu-01488800 |

### TEST RESULTS

**CDPH Standard Method v1.2, Table 4.1**

| MODELING SCENARIO | RESULT (PASS/FAIL) |
|---|---|
| Private Office (PO) | **PASS** |
| School Classroom (SC) | **PASS** |
| Single Family Residence (R)* | **PASS** |

*Note: The single family residence scenario is not yet a CDPH requirement. It is provided for informational purposes only.

**LEED v4 Total Volatile Organic Compounds (TVOC)**

| MODELING SCENARIO | TVOC (mg $m^{-3}$) |
|---|---|
| Private Office (PO) | **< 0.1** |
| School Classroom (SC) | **< 0.1** |
| Single Family Residence (R)* | **< 0.1** |

*Note: The single family residence scenario is not yet a CDPH requirement. It is provided for informational purposes only.

### SAMPLE DISPOSITION

At the completion of testing, samples were disposed of in a routine manner.

## SECTION 3
## CDPH STANDARD METHOD V1.2

| | |
|---|---|
| Date Received: | 25-October-2024 |
| Dates Tested: | 01-November-2024 to 15-November-2024 |

**ACCEPTANCE CRITERIA:**

| | |
|---|---|
| Referencing: | CDPH Standard Method v1.2, Table 4.1<br>LEED v4 - Low Emitting Materials |
| LEED v4 - TVOC Ranges: | ≤ 0.5 mg $m^{-3}$<br>0.5 to 5.0 mg $m^{-3}$<br>≥ 5.0 mg $m^{-3}$ |

**TEST NOTES OR DEVIATIONS:**

Testing performed without deviation.

**TEST SUMMARY:**

The emissions testing was performed according to "Standard Method for the Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2". A photograph of the tested sample is included herein. Three sides of the sample were lined with aluminized tape. The sample was placed into the test chamber with top and bottom surfaces exposed. The sample was conditioned outside of the test chamber at 23 ± 2°C and 50 ± 10% RH. Air samples were collected prior to the sample being placed in the test chamber (0 hours) and at 264, 288, and 336 hours after preparation. Samples analyzed for individual VOCs and TVOC were collected on multi-sorbent tubes containing glass wool, Tenax TA 35/60 and Carbograph 5 TD 40/60. These VOC samples were analyzed by thermal desorption-gas chromatography/mass-spectrometry, TD-GC/MS. TVOC was calculated through integration of the chromatogram from n-pentane through n-heptadecane using toluene as a surrogate. Individual VOCs were calculated using calibration curves based on pure standards unless otherwise noted. Samples analyzed for low molecular weight aldehydes were collected on cartridges treated with 2,4-di-nitrophenylhydrazine (DNPH). Low molecular weight aldehydes were analyzed using high performance liquid chromatography, HPLC.

**Table 1: Conditioning and test timing**

| EXPERIMENT PHASE | START DATE | DURATION |
|---|---|---|
| Conditioning | 01-November-2024 | 10 Days |
| Chamber Testing | 11-November-2024 | 4 Days |

**RESULTS:**

**Table 2: Sample and Chamber Conditions during Test Period**

| PARAMETER | | SYMBOL | VALUE | UNITS |
|---|---|---|---|---|
| Sample Dimensions | Length | - | 0.285 | m |
| | Width | - | 0.261 | m |
| | Thickness | - | 0.009 | m |
| Exposed Sample Surface Area | | *A* | 0.074 | $m^2$ |
| Chamber Volume | | *V* | 0.116 | $m^3$ |
| Chamber Loading Factor | | *L* | 0.64 | $m^2\ m^{-3}$ |
| Inlet Air Flow Rate | | *Q* | 0.116 | $m^3\ h^{-1}$ |
| Air Change Rate | | $N_{ACH}$ | 1.00 | $h^{-1}$ |
| Area Specific Flow Rate | | $q_A$ | 1.56 | $m\ h^{-1}$ |
| Chamber Pressure (Range) | | P | 16.6 (14.0-19.0) | Pa |
| Average Temperature (Range) | | T | 22.9 (22.7-23.1) | °C |
| Average Humidity (Range) | | RH | 50.0 (47.3-51.2) | % RH |
| Testing Duration | | t | 336 | h |

**Table 3: Test chamber background VOC concentrations in µg $m^{-3}$.**

| COMPOUND | CAS No. | $C_{i0}$ |
|---|---|---|
| Formaldehyde | 50-00-0 | 0.9 |
| TVOC | - | < 20 |

**Table 4: Test chamber TVOC and formaldehyde concentrations in µg $m^{-3}$.**

| COMPOUND | CAS No. | 264 H | 288 H | 336 H |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | 1.2 | 1.0 | 0.6 |
| TVOC | - | < 20 | < 20 | < 20 |

**Table 5: Test chamber TVOC and formaldehyde emission factors in µg $m^{-2}$ $h^{-1}$.**

| COMPOUND | CAS No. | 264 H | 288 H | 336 H |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | < 0.4 | < 0.4 | < 0.4 |
| TVOC | - | < 26.5 | < 26.5 | < 26.5 |

Individual emitted VOCs identified above the lower limits of quantitation are listed in Table 6; VOCs which are listed on chemical of concern lists or have CRELs are indicated.

The measured chamber concentrations and corresponding emission factors of identified individual VOCs and TVOCs are listed in Table 7.

In Tables 5, 7 and 8, emission factors were calculated using equation 3.1 in CDPH Standard Method V1.2:

$$EF_{Ai} = \frac{Q \times (C_{it} - C_{i0})}{A_C}$$

The inlet flow rate, $Q$ ($m^3\,h^{-1}$), is the measured flow rate of air into the chamber. The chamber concentration, $C_{it}$ ($\mu g\,m^{-3}$), is the concentration of a target $VOC_i$, formaldehyde and other carbonyl compounds measured at time $t$. The chamber background concentration, $C_{i0}$ ($\mu g\,m^{-3}$), is the corresponding concentration measured with the chamber operating without a test specimen. The exposed surface area of the test specimen in the chamber, $A_C$ ($m^2$), is determined from the measurements made at the time of specimen preparation.

**Table 6: VOCs detected above lower limits of quantitation in air samples at 336 hours.**

| VOC | CAS No. | SURROGATE[1] | CREL[2] ($\mu g\,m^{-3}$) | CARB TAC[3] | PROP 65 LIST[4] |
|---|---|---|---|---|---|
| Formaldehyde | 50-00-0 | No | 9 | Yes | Yes |

[1]Indicates which non-listed VOCs were quantified using surrogate compounds, all other compounds were quantified using pure compounds.
[2]Chronic Reference Exposure Level (CREL) as defined by California Office of Environmental Health Hazard Assessment.
[3]Substance is listed on California Air Resource Board's (CARB) Toxic Air Contaminate (TAC) identification list.
[4]Substance known to the state of California to cause cancer or reproductive toxicity according to California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

**Table 7: Measured chamber concentrations and corresponding emission factors of individual VOCs listed in Table 4-1 of CDPH 01350 V1.2. at 336 hours.**

| VOC | CAS No. | CHAMBER CONCENTRATION ($\mu g\ m^{-3}$) | EMISSION FACTOR ($\mu g\ m^{-2}\ h^{-1}$) |
|---|---|---|---|
| **Formaldehyde** | **50-00-0** | **0.6** | **< 0.4** |
| Acetaldehyde | 75-07-0 | < 3.7 | < 5.7 |
| Vinyl acetate | 108-05-4 | < 1.6 | < 2.5 |
| Epichlorohydrin | 106-89-8 | < 1.1 | < 1.7 |
| Ethanol, 2-methoxy-, acetate | 110-49-6 | < 0.5 | < 0.7 |
| Isopropyl Alcohol | 67-63-0 | < 1.2 | < 1.9 |
| Ethene, 1,1-dichloro- | 75-35-4 | < 1.0 | < 1.6 |
| Methylene chloride | 75-09-2 | < 3.8 | < 5.9 |
| Carbon disulfide | 75-15-0 | < 1.5 | < 2.3 |
| Methyl tert-butyl ether | 1634-04-4 | < 1.4 | < 2.2 |
| n-Hexane | 110-54-3 | < 0.8 | < 1.3 |
| Trichloromethane (Chloroform) | 67-66-3 | < 0.5 | < 0.8 |
| Ethanol, 2-methoxy- | 109-86-4 | < 1.1 | < 1.7 |
| Ethane, 1,1,1-trichloro- | 71-55-6 | < 0.6 | < 0.9 |
| Benzene | 71-43-2 | < 0.8 | < 1.3 |
| Carbon Tetrachloride | 56-23-5 | < 0.4 | < 0.6 |
| 2-Propanol, 1-methoxy- | 107-98-2 | < 0.7 | < 1.1 |
| Ethylene glycol | 107-21-1 | < 36 | < 56 |
| Trichloroethylene | 79-01-6 | < 0.3 | < 0.5 |
| 1,4-Dioxane | 123-91-1 | < 0.3 | < 0.4 |
| Ethanol, 2-ethoxy- | 110-80-5 | < 0.7 | < 1.1 |
| Toluene | 108-88-3 | < 0.4 | < 0.6 |
| Formamide, N,N-dimethyl- | 68-12-2 | < 0.8 | < 1.2 |
| Tetrachloroethylene | 127-18-4 | < 0.4 | < 0.7 |
| Benzene, chloro- | 108-90-7 | < 0.4 | < 0.6 |
| Ethylbenzene | 100-41-4 | < 0.3 | < 0.5 |
| Xylene (-m, -p, & -o) | 108-38-3, 95-47-6, 106-42-3 | < 1.5 | < 2.3 |
| Styrene | 100-42-5 | < 0.5 | < 0.7 |
| 2-Ethoxyethyl acetate | 111-15-9 | < 1.1 | < 1.7 |
| Phenol | 108-95-2 | < 0.9 | < 1.4 |
| Benzene, 1,4-dichloro- | 106-46-7 | < 0.4 | < 0.6 |
| Isophorone | 78-59-1 | < 0.3 | < 0.5 |
| Naphthalene | 91-20-3 | < 0.5 | < 0.8 |

**Table 8: Measured chamber concentrations and corresponding emission factors of identified non-listed individual VOCs and TVOC at 336 hours.**

| VOC | CAS No. | CHAMBER CONCENTRATION (µg $m^{-3}$) | EMISSION FACTOR (µg $m^{-2}$ $h^{-1}$) |
|---|---|---|---|
| TVOC | - | < 20 | < 26.5 |

**Exposure Scenario Modeling and Evaluation:**

Estimated building concentrations for the listed scenarios were calculated using equation 3.2a of CDPH Standard Method V1.2:

$$C_{Bi} = \frac{EF_{Ai} \times A_B}{Q_B}$$

The area specific emission rate $EF_A$ at 336 hours (14 days) total exposure time is multiplied by the ratio of the exposed surface area of the installed material in the building, $A_B$ ($m^2$), to the flow rate of outside ventilation air, $Q_B$ ($m^3$ $h^{-1}$).

The modeling parameters used for the given scenarios are listed in Table 9. The modeled concentrations of identified individual VOCs are listed in Tables 10 & 11. Whether the modeled concentrations meet the maximum allowable concentration requirements specified in Table 4.1 of CDPH Standard Method V1.2 are also indicated.

**Table 9: Standard modeling parameters for wall and ceiling acoustical panels.**

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|---|---|---|
| Exposed Surface Area Installed in *Private Office (PO)* | $A_B$ | 44.5 | $m^2$ |
| Air flow rate of *Private Office (PO)* | $Q_B$ | 20.7 | $m^3$ $h^{-1}$ |
| Exposed Surface Area Installed in *Classroom (SC)* | $A_B$ | 184 | $m^2$ |
| Air flow rate of *Classroom (SC)* | $Q_B$ | 191 | $m^3$ $h^{-1}$ |
| Exposed Surface Area Installed in *Residence (R)* | $A_B$ | 779 | $m^2$ |
| Air flow rate of *Residence (R)* | $Q_B$ | 127 | $m^3$ $h^{-1}$ |

**Table 10: Modeled concentrations of individual VOCs specified in Table 4-1 of CDPH 01350 V1.2.**

| VOC | CAS NO. | MODELED CONCENTRATION (µg m$^{-3}$) | | | CONC. LIMIT (µg m$^{-3}$) | RESULT Pass (P) /Fail (F) | | |
|---|---|---|---|---|---|---|---|---|
| | | PO | SC | R | | PO | SC | R |
| **Formaldehyde** | **50-00-0** | **< 1.0** | **< 0.4** | **< 2.8** | **9** | **P** | **P** | **P** |
| Acetaldehyde | 75-07-0 | < 12.2 | < 5.5 | < 34.9 | 70 | P | P | P |
| Vinyl acetate | 108-05-4 | < 5.4 | < 2.4 | < 15.5 | 100 | P | P | P |
| Epichlorohydrin | 106-89-8 | < 3.7* | < 1.7* | < 10.5* | 1.5 | P | P | P |
| Ethanol, 2-methoxy-, acetate | 110-49-6 | < 1.6 | < 0.7 | < 4.5 | 45 | P | P | P |
| Isopropyl Alcohol | 67-63-0 | < 4.0 | < 1.8 | < 11.4 | 3,500 | P | P | P |
| Ethene, 1,1-dichloro- | 75-35-4 | < 3.4 | < 1.5 | < 9.8 | 35 | P | P | P |
| Methylene chloride | 75-09-2 | < 12.6 | < 5.7 | < 36.1 | 200 | P | P | P |
| Carbon disulfide | 75-15-0 | < 4.9 | < 2.2 | < 13.9 | 400 | P | P | P |
| Methyl tert-butyl ether | 1634-04-4 | < 4.8 | < 2.1 | < 13.6 | 4,000 | P | P | P |
| n-Hexane | 110-54-3 | < 2.8 | < 1.3 | < 8.0 | 3,500 | P | P | P |
| Trichloromethane (Chloroform) | 67-66-3 | < 1.7 | < 0.8 | < 4.9 | 150 | P | P | P |
| Ethanol, 2-methoxy- | 109-86-4 | < 3.7 | < 1.7 | < 10.6 | 30 | P | P | P |
| Ethane, 1,1,1-trichloro- | 71-55-6 | < 2.0 | < 0.9 | < 5.8 | 500 | P | P | P |
| Benzene | 71-43-2 | < 2.7* | < 1.2 | < 7.7* | 1.5 | P | P | P |
| Carbon Tetrachloride | 56-23-5 | < 1.4 | < 0.6 | < 4.0 | 20 | P | P | P |
| 2-Propanol, 1-methoxy- | 107-98-2 | < 2.4 | < 1.1 | < 6.8 | 3,500 | P | P | P |
| Ethylene glycol | 107-21-1 | < 120 | < 54 | < 340* | 200 | P | P | P |
| Trichloroethylene | 79-01-6 | < 1.1 | < 0.5 | < 3.2 | 300 | P | P | P |
| 1,4-Dioxane | 123-91-1 | < 0.9 | < 0.4 | < 2.6 | 1,500 | P | P | P |
| Ethanol, 2-ethoxy- | 110-80-5 | < 2.4 | < 1.1 | < 7.0 | 35 | P | P | P |
| Toluene | 108-88-3 | < 1.2 | < 0.5 | < 3.4 | 150 | P | P | P |
| Formamide, N,N-dimethyl- | 68-12-2 | < 2.6 | < 1.1 | < 7.3 | 40 | P | P | P |
| Tetrachloroethylene | 127-18-4 | < 1.5 | < 0.7 | < 4.1 | 17.5 | P | P | P |
| Benzene, chloro- | 108-90-7 | < 1.3 | < 0.6 | < 3.8 | 500 | P | P | P |
| Ethylbenzene | 100-41-4 | < 1.1 | < 0.5 | < 3.3 | 1,000 | P | P | P |
| Xylene (-m, -p, & -o) | 108-38-3, 95-47-6, 106-42-3 | < 4.9 | < 2.2 | < 14.0 | 350 | P | P | P |
| Styrene | 100-42-5 | < 1.6 | < 0.7 | < 4.6 | 450 | P | P | P |
| 2-Ethoxyethyl acetate | 111-15-9 | < 3.7 | < 1.6 | < 10.5 | 150 | P | P | P |
| Phenol | 108-95-2 | < 3.0 | < 1.3 | < 8.5 | 100 | P | P | P |
| Benzene, 1,4-dichloro- | 106-46-7 | < 1.4 | < 0.6 | < 4.0 | 400 | P | P | P |
| Isophorone | 78-59-1 | < 1.1 | < 0.5 | < 3.2 | 1,000 | P | P | P |
| Naphthalene | 91-20-3 | < 1.7 | < 0.8 | < 4.8* | 4.5 | P | P | P |

*Individual VOC of concern is below lower LOQ for modeled scenario.

**Table 11: Modeled concentrations of identified non-listed individual VOCs.**

| VOC | CAS NO. | MODELED CONCENTRATION ($\mu g\ m^{-3}$) | | |
|---|---|---|---|---|
| | | PO | SC | R |
| $TVOC_{Toluene}$ | - | < 66.9 | < 30 | < 191 |

## PHOTOGRAPHS:

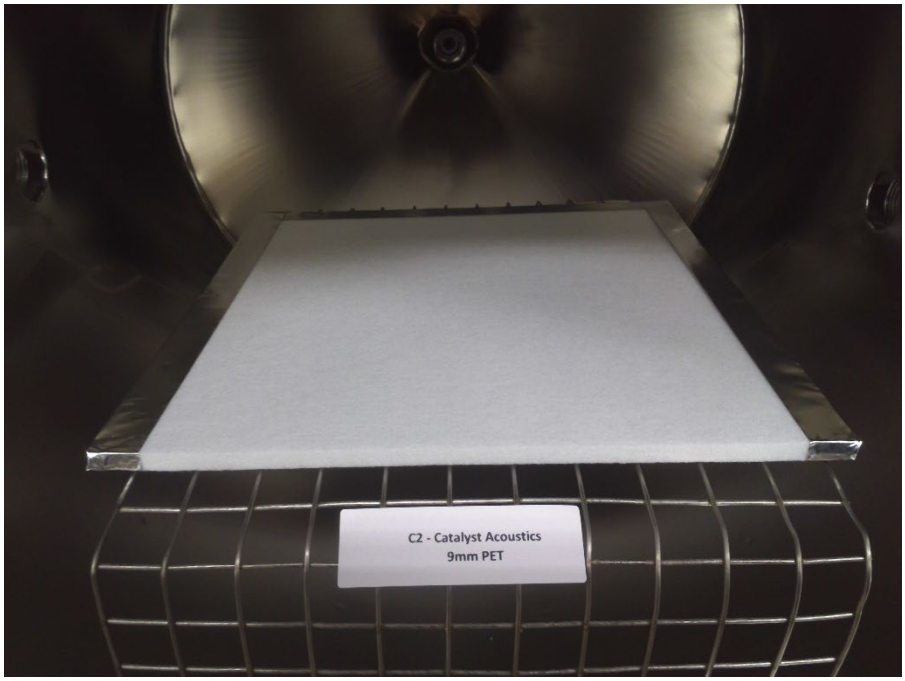


Figure 1: Photograph of sample in test chamber.

## SECTION 4
## CLIENT PROVIDED CHAIN OF CUSTODY

intertek sustainability

| Ship To: |
|---|
| Attn: VOC Laboratory |
| 4700 Broadmoor Ave SE |
| Suite 200 |
| Kentwood, MI 49512 |
| Phone: 616-656-7401 |

| Chain of Custody for Chemical Testing |
|---|
| Intertek Quotation Number: Qu-01488800-0 |
| Purchase Order (enter Company and Number): FRASCH |

| Shipping Details |
|---|
| Packed & Shipped By: KIM VALENZUELA |
| Shipping Date: 10-17-2024 |
| Carrier/Airbill Number: FED EX |

| Requested Testing |
|---|
| Test to be performed: CDPH 01350 Test |

| Customer Request for Certification |
|---|
| Clean Air™ Certification: ☐ YES |

| Customer Information |
|---|
| Company: Catalyst Acoustics Group |
| Street Address: 50 HP Almgren Drive |
| City/State/Postal code: Agawam, MA 01001 |
| Country: United States |
| Contact Name & Title (for reporting): Max Boccasile, Associate Product Manager |
| Contact Phone/Fax Numbers: 413-726-0116 |
| Contact E-mail Address: mboccasile@catalystacoustics.com |
| Financially Responsible Co. : Catalyst Acoustics Group |

| Manufacturer Information (If Different) |
|---|
| Company: Frasch |
| City/State/Country: Grand Prairie, TX 75050 United States |
| Contact Name/Title: Max Boccasile, Associate Product Manager |
| Phone Number/E-mail Address: mboccasile@catalystacoustics.com |

| Special Customer Instructions |
|---|
| |

| Sample Details |
|---|
| Product Commercial Name*: 9MM PET |
| Product Commercial Part No.(if not part of the name)*: |
| Manufacturer Sample Tracking ID: |
| Date Manufactured*: ~~10-1-2024~~ 10-16-2024 |
| Product Category & Use*: Acoustic Noise Control |
| Sample Construction Materials*: 100% Polyethelene Terephthalate |
| Plant Name & Location*: Frasch, Grand Prairie, TX |
| Collection Location within Plant: PRODUCTION |
| Date & Time Collected* : 12:00PM OCT 17, 2024 |
| Number of Sample Pieces*: Five (5) |
| Sample Collected by*: GARY NIGHTINGALE |
| Phone/Fax Numbers*: 972-898-4444 |
| E-mail Address*: GN@FRASCH.COM |

| Customer Authorizes Laboratory to Submit Copies of Test Reports To: |
|---|
| Contact: Max Boccasile |
| Email Address: mboccasile@catalystacoustics.com |
| Organization: Catalyst Acoustics Group |
| Contact: Jennifer Chagnon |
| Email Address: jchagnon@catalystacoustics.com |
| Organization: Catalyst Acoustics Group |

| Intertek Use Only |
|---|
| Condition of Shipping Package: Good Condition |
| Condition of Sample: Good Condition |
| Sample ID: GRR 241025000B |
| GIN: G105988494 |

*Indicates required field

**Sample Handling***

| | Printed Name* | Signature* | Date* | Company* |
|---|---|---|---|---|
| Relinquished By: | GARY NIGHTINGALE | | 10-17-2024 | FRASCH |
| Received by: | Natalie Carter | Natalie Carter | 10/25/24 | Intertek |