Tremco Incorporated
1451 Jacobson Avenue, Ashland, OH 44805 www.tremcosealants.com

TREMCO®
Commercial Sealants & Waterproofing

Eric Tango
Manager, Engineered Rubber Solutions
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F 419.289.6645
email@tremcoinc.com

February 24, 2010

Mr. Jim Westphal
YKK, AP America
7680 The Bluffs, Suite 100
Austell, GA 30168
ph 678-396-6738

RE: ASTM Specifications

Dear Mr. Westphal,

Tremco produces the following extrusions from our 60 Durometer Dense EPDM rubber compound (# 3162). This material has been tested in accordance with ASTM C 864, Option II specifications. Profile drawings, material specification data sheets and laboratory test reports have been attached for your reference.

E2-0050 / TR-6132E
E2-0379 / TR-16960E

Tremco produces the following extrusions from our 70 Durometer Dense EPDM rubber compound (# 569). This material has been tested in accordance with ASTM C 864, Option II specifications. Profile drawings, material specification data sheets and laboratory test reports have been attached for your reference.

E2-0081 / TR-13622E
E2-0672 / TR-13771E

Tremco produces the following extrusions from our 70 Durometer Dense SCR-900 rubber compound (# 535). This material has been tested in accordance with ASTM C 864, Option II specifications. Profile drawings, material specification data sheets and laboratory test reports have been attached for your reference.

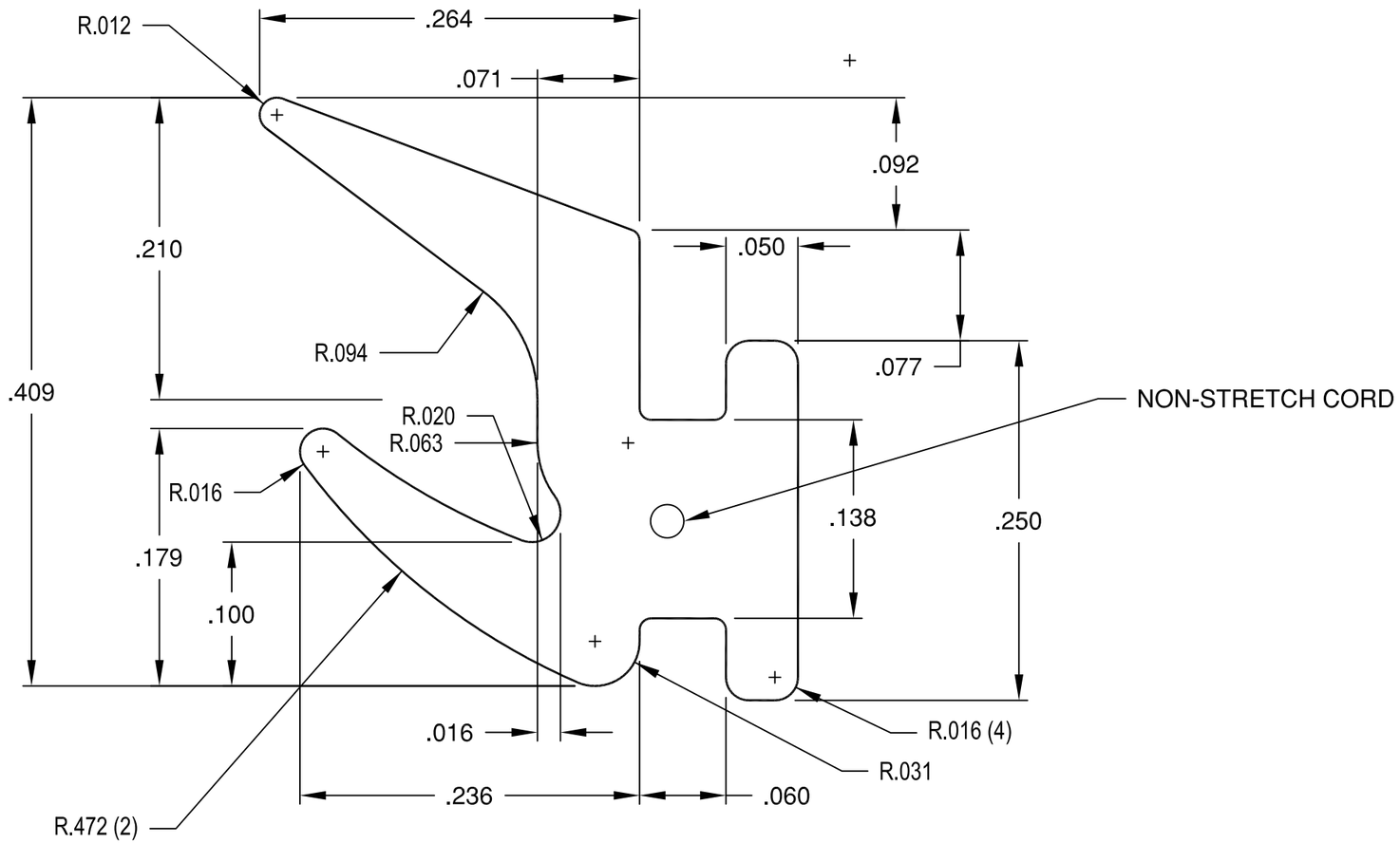
E2-0084 / TR-6269W
E2-0353 / TR-5146W

Please contact me if you require further assistance.

Sincerely,

Eric Tango

Eric Tango



FULL SCALE

PROFILE IS TO BE SILICONE COATED

UNSPECIFIED RADIUS= .008"

No.	Date	Description	By
1	3-22-01	CUST. P/N WAS E2-0050C	EJT

TREMCO 1451 Jacobson Ave • Ashland, Ohio 44805 U.S.A.

Customer: YKK AP AMERICA	Customer Part No. E2-0050
Project: DOOR SYSTEM	
Drawn by: D.TRIGG	Scale: 10X
Date: 6-7-00	
Compound: EPDM	Designed F.C. ***
Drawing No. TR-6132E	
Durometer: 60 ±5	Area: .065

The design of the gasket shown herein is the product of Tremco Incorporated. No reproduction or use of this design is authorized without the consent of Tremco Incorporated.

TX-2262E

"Progress Through Innovation, Technology and Customer Satisfaction"

AKRON RUBBER DEVELOPMENT LABORATORY, INC.
2887 Gilchrist Road • Akron, Ohio 44305
1-800-830-ARDL • (330) 794-6600 • FAX (330) 794-6610
Website: www.ardl.com • E-mail: info@ardl.com

August 26, 2002

TREMCO PART # 3162

- TEST REPORT -

PN# 49424A

Prepared for:

Mr. John Wegman
Tremco, Inc.
1451 Jacobson Avenue
Ashland, Ohio 44805

Prepared by: Judy Kiefl
Judy Kiefl

Approved by: Jim Drummond

AN A2LA ACCREDITED LABORATORY
MEMBER OF ACIL: THE ASSOCIATION OF INDEPENDENT SCIENTIFIC, ENGINEERING AND TESTING FIRMS

ISO 9001 Registered

ACCREDITED

MEMBER ACIL

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August 26, 2002

Mr. John Wegman
Tremco, Inc.
1451 Jacobson Avenue
Ashland, Ohio 44805

SUBJECT: Physical testing on material submitted by the above company.

RECEIVED: Five (5) slabs and six (6) compression buttons identified as WJT 7523.

ORIGINAL PHYSICAL PROPERTIES, ASTM D 412-98a, D 2240-02
Die C dumbbells tested at 20 in/min.

	RESULTS	REQUIREMENTS	PASS/FAIL
Shore A Durometer, points	63	60 ± 5	Pass
Tensile Strength, psi	1800	1600 min.	Pass
Ultimate Elongation, %	560	250 min.	Pass

HEAT-AGED PROPERTIES, ASTM D 573-99
Specimens aged 70 hrs. @ 100°C in a forced air oven.

	RESULTS	REQUIREMENTS	PASS/FAIL
Durometer, point change	+5	+10 max.	Pass
Tensile Strength, % change	-6.9	-15 max.	Pass
Elongation, % change	-31.2	-40 max.	Pass

COMPRESSION SET, ASTM D 395-98, METHOD B
Specimens aged 22 hrs. @ 100°C, 25% deflection, ½ hr. recovery.

	RESULTS	REQUIREMENTS	PASS/FAIL
Compression Set, %	18.1	30 max.	Pass

August 26, 2002

Mr. John Wegman
Tremco, Inc.

OZONE RESISTANCE, ASTM D 1149-99
Test specimens per ASTM D 518-99, Method A
Specimens exposed 100 hrs. @ 100 pphm @ 40°C, 20% elongation.
Observations made at 7x magnification.

RESULTS	REQUIREMENTS	PASS/FAIL
No cracks	No cracks	Pass

LOW TEMPERATURE BRITTLENESS, ASTM D 2137-94(00), METHOD A
Five modified T-50 specimens conditioned 3 min. @ -40°C in methanol, then tested per Para. 9.3.2.

RESULTS	REQUIREMENTS	PASS/FAIL
No cracks	No specimen shall crack	Pass

TEAR RESISTANCE, ASTM D 624-00, DIE C
Specimens tested at 20 in/min.

	RESULTS	REQUIREMENTS	PASS/FAIL
Tear Strength, ppi	165	150 min.	Pass

STAINING OF SURFACE, ASTM D 925-88(00), METHOD B
Procedure: ½" x 1" specimens exposed 48 hrs. ten inches below a 275 W, type RS UV bulb
Test Surface: White Automotive Grade Enamel

RESULTS	REQUIREMENTS	PASS/FAIL
No migration stain	No migration stain	Pass

Judy Kiefl
Project Technician
AKRON RUBBER DEVELOPMENT LABORATORY, INC.

Jim Drummond
Physical Testing Manager

N# 49424A
JJD/sc

EPDM

Dense Rubber Extrusions

Product Description

Tremco EPDM Dense Rubber Extrusions are fabricated into gaskets and accessories (such as setting blocks, spacers and shims) for use in sealing and glazing applications in building construction.

Metal Requirements

Tremco EPDM Dense Rubber Extrusions are manufactured to meet existing metal designs or developed with custom metal systems at the design development stage. Many profiles are available depending upon existing metal requirements.

Packaging

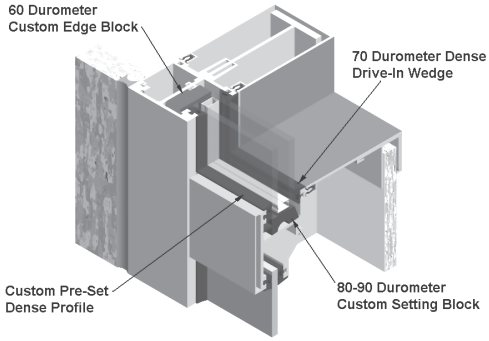
Tremco EPDM Dense Rubber Extrusions are packaged based on customer requirements, profile size, configuration and the need for molded picture frame gaskets.

Availability/Cost

Tremco EPDM Dense Rubber Extrusions are generally custom manufactured but many standard designs are available. Their availability and cost may be obtained from your local Tremco Representative, or by contacting our Customer Service Department in Ashland, Ohio, at 800-321-6357 or in Canada at 800-363-3213.

Warranty

Tremco warrants their products to be free of defects. Under this warranty, Tremco will provide, at no charge, products in containers to replace any product proven to be defective when applied, tested and cured (if applicable), in accordance with Tremco's written instructions, standards and applications recommended by Tremco as suitable for this product. User shall determine suitability of the product for their intended use and assume all risk and liability therewith. Seller shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product. All claims concerning product defects must be made within 12 months of shipment. Absence of such claims in writing, during this period, will constitute a waiver of all claims with respect to such product. This warranty is the user's sole remedy and is IN LIEU OF any and all other warranties expressed or implied, including but not limited to, any implied warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.



TYPICAL PHYSICAL PROPERTIES

Property	ASTM Test Method	Wedge Gaskets	Accessory Gaskets	Setting Blocks
Shore "A" Hardness	D-2240	68-71	58-62	82-85
Compression Set, 22h @ 100˚C Ozone Resistance, 100 mPa	D-395	22-28%	18-29%	26-30%
100h @ 40˚C, 20% Elongation	D-1149	No Cracks	No Cracks	No Cracks
Tensile Strength	D-412	1810-1925 psi (12.5-13.3 MPa)	1675-1750 psi (11.5-12.1 MPa)	1800-1900 psi (12.4-13.1 MPa)
Elongation @ Rupture	D-412	350-530%	375-550%	175-280%
Tear Strength	D-624	143-209 lb/in (25.0-36.6 kN/m)	160-182 lb/in (28.0-31.9 kN/m)	125-158 lb/in (21.9-27.7 kN/m)
Brittleness Temperature @ -40˚C	D-746	Pass	Pass	Pass
Flame Propagation, Option II	C-1166	No Limit	No Limit	No Limit

Tremco Commercial Sealants & Waterproofing
3735 Green Road, Beachwood, OH 44122 // Phone: 216.292.5000 // 800.321.7906
220 Wicksteed Avenue, Toronto, ON M4H 1G7 // Phone: 416.421.3300 // 800.363.3213
1451 Jacobson Avenue, Ashland OH 44805 // Phone: 419.289.2050 // 800.321.6357

An RPM Company

www.tremcosealants.com

THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

EXCEL POLYMERS, LLC
Burton, OH

for technical competence in the field of

Mechanical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing.

Presented this 27th day of July 2005.

American Association for Laboratory Accreditation
Corporate SEAL 1978 District of Columbia
A2LA

President
For the Accreditation Council
Certificate Number 0121.01
Valid to June 30, 2007
Revised May 9, 2007

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

EXCEL POLYMERS, LLC
BURTON DEVELOPMENT LABORATORY
14330 Kinsman Road
Burton, OH 44021-0366
Lynn McIntyre Phone: 440 834 5539

MECHANICAL

Valid To: June 30, 2007 Certificate Number: 0121.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following automotive tests on rubber:

✓ASTM D297	Specific Gravity (Section 16.3)
ASTM D395	Rubber Property - Compression Set (Part B)
✓ASTM D412	Rubber Properties in Tension (Strength, Modulus & Elongation)
✓ASTM D471	Rubber Property - Effect of Liquids
ASTM D518	Rubber Deterioration - Surface Cracking
ASTM D573	Rubber Deterioration in an Air Oven
ASTM D575	Rubber Properties in Compression
ASTM D624	Rubber Property - Tear Resistance
ASTM D865	Rubber Deterioration by Heating in Air (Test Tube Enclosure)
ASTM D925	Rubber Property - Staining of Surfaces (Methods A & B)
ASTM D1149	Rubber Deterioration - Surface Ozone Cracking (Flat Specimens)
ASTM D1171	Rubber Deterioration - Surface Ozone Cracking (Triangular)
ASTM D1229	Rubber Property - Compression Set at Low Temperatures
✓ASTM D1646	Viscosity & Vulcanization Characteristics (Mooney Viscometer)
✓ASTM D2084	Rubber Property - Vulcanization (Oscillating Disk Cure Meter)
ASTM D2137	Rubber Property - Brittleness Point
ASTM D2240	Rubber Property - Durometer Hardness (Shore A)
ASTM D2632	Rubber Property - Resilience (Vertical Rebound)
✓ASTM D5289	Rubber Property - Vulcanization (Moving Die Cure Meter)

Burton Development Laboratory

Test Method 01001 Procedures for Mixing Compounds and Preparing Vulcanized Sheets