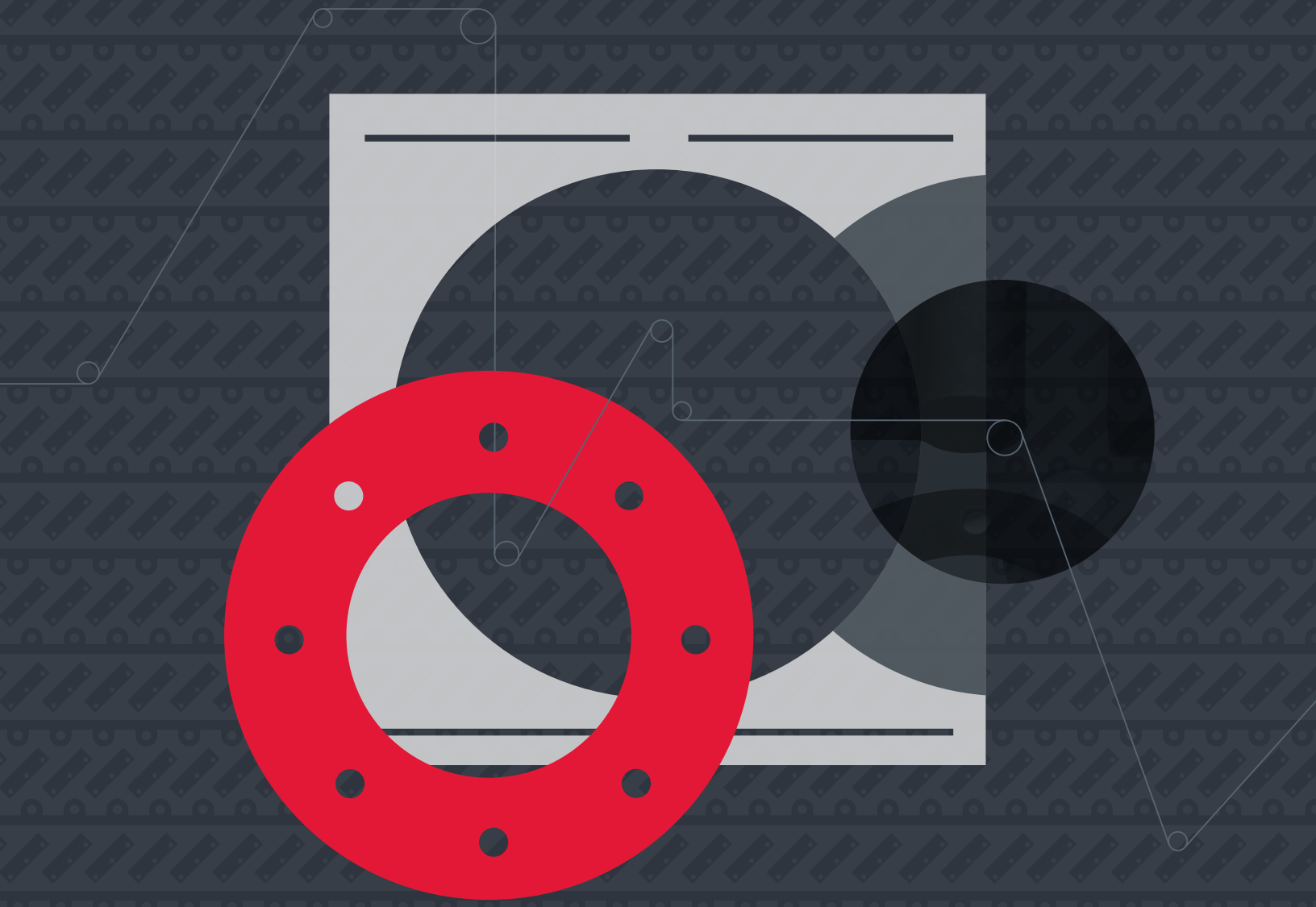
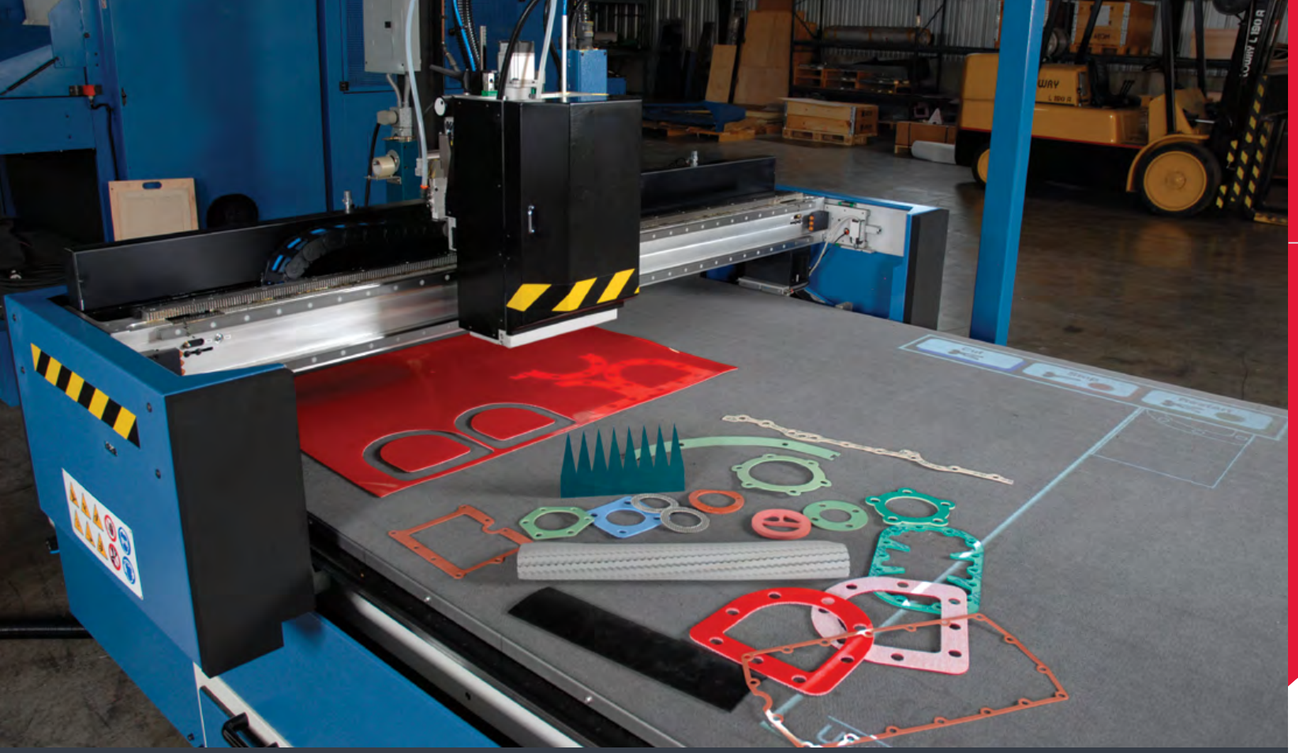
APACHE
Think *Forward.*



CUT & MOLDED PRODUCTS CATALOG

ISO 9001:2008



IDEAS TAKING SHAPE

AT APACHE, IDEAS TURN INTO SOLUTIONS. We work with you to develop high-quality, cost-effective, cut and molded parts. Our product and engineering staff are here to help, working to raise the bar and partnering with you to move your business forward.

Our industrial product lines create an extensive offering of cut, extruded and molded rubber products along with our industry-leading selection of belt and hose. We have advanced our fabrication capabilities, our knowledge base and our support services with added facilities and machinery. Our geographic footprint provides service and supply capabilities that ultimately shortens our customer lead times.

YOUR ONE STOP FOR CUSTOM PARTS
Whatever your custom cut, molded and extruded part requirements, Apache has the capabilities you need, including waterjet and flashcutting.

Our technologically advanced production systems, combined with the skill and craftsmanship of our team members, consistently delivers high-quality products. Our locations stock a wide variety of standard and specialty materials and compounds.

Product specialists and engineering personnel are available to assist you in choosing the right materials and production process that best fits your application. Whether it is a prototype, low- or high-volume production run, or blanket order program, we provide high-quality products at competitive pricing.

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CREATING CUSTOM PARTS IS A

COLLABORATION

1
ENGINEERING PERFORMANCE

To produce precision parts requires precise information. The more specific data provided, the better. If you don't have it, we will help you create it. Examples include: CAD files, sample(s), tolerances, material properties (elongation, durometer, etc.).

2
DESIGNING DURABILITY

Knowing such things as operating temperature, environment in which a part operates, static or dynamic operation are essential. Completing this process allows our sales and technical teams to engineer solutions that work, every time.

3
PRODUCING EXCELLENCE

How many do you need? And when? Need large volumes or small quantities of custom made parts? We can give you exactly what you need. Special packaging, labeling or branding? Not a problem. Tell us your requirements and we will meet your needs and exceed your expectations.

Whether you're developing a prototype, need a production run or have a blanket order program, Apache provides high-quality products at competitive pricing.

CUT PARTS

At Apache, our experience and fabrication capabilities have made us the leader in the production of cut parts. Parts are processed to exact specifications using CAD files (.dxf, .dwg formats). If your files are not available, we can identify and replicate the part you need.

CUTTING PROCESSES

We produce our customers' parts using one of four cutting processes: waterjet, flashcut, die-cut and hand-cut.

WATERJET

Waterjet cutting allows for the precision cutting of custom parts when extremely tight tolerances are critical or complicated patterns are called for. This CNC-controlled process produces parts with exceptional quality and clean cut edges without causing thermal damage. What's more, the waterjet can be used to cut a wide range of materials and dimensions.

FLASHCUT

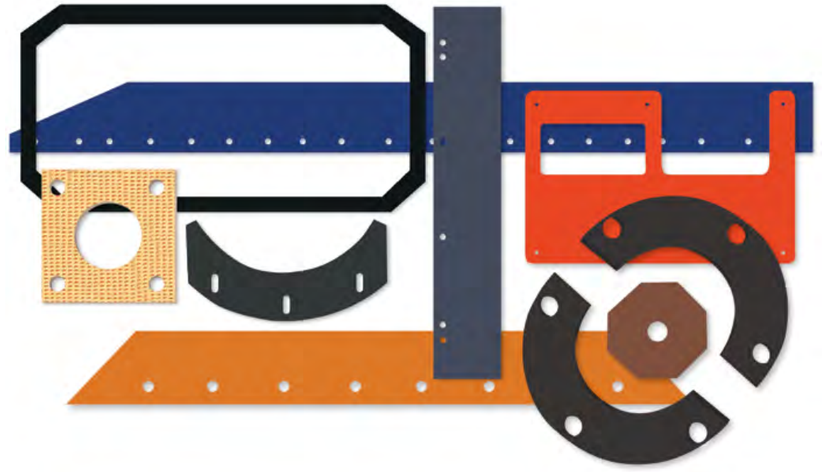
Die-less knife cutting offers the precision and tight tolerances of a waterjet without the use of water. The CNC controlled flashcut operates on AutoCAD files like a waterjet, and is ideal for cutting soft and semi-rigid materials without the mess and cleanup of water cutting.

DIE-CUT

Die-cutting results in very precise parts with tight tolerances. It can be used to produce both low- and high-volume production runs in a wide range of materials.

HAND-CUT

Hand-cutting is the right choice for certain limited quantity, lower tolerance and prototype parts. Our craftsmen have the skill to produce prototypes and low-volume production runs from a wide variety of materials and for a range of industries.



CUT RUBBER MATERIAL OPTIONS

INDUSTRIAL GASKET AND SHEET PACKING MATERIALS

- Lightweight and heavy-duty rubber and PVC conveyor belt
- Lightweight thermoplastic belt
- Oil- and non-oil resistant rubber:
  - Diaphragm and cloth-inserted rubber sheet
  - Open and closed cell sponge and foam
  - Silicone rubber
  - Rubber sheet packing (all polymers)
  - Cork/rubber sheet
  - Masticated rubber
  - Pure gum (natural rubber)
  - White FDA food-grade rubber
  - Compressed non-asbestos sheet
- We work with the top material suppliers in the business, so if we don't happen to have it on the shelf, we can get it quickly.

SPECIALTY APPLICATION MATERIALS

- UHMW polyethylene (Ultra-High Molecular Weight)
- HDPE (High Density Polyethylene)
- LDPE (Low Density Polyethylene)
- Lining materials for abrasion and wear protection
- Electric transformer gaskets
- AASHTO shock and structural bearing material
- Military specifications
- Ballistic materials
- Various composite materials
- NSF/ANSI 61 gasket material (Cedar Rapids is a certified processing facility)

INNOVATIVE TECHNOLOGY SAVES TIME AND MONEY

Apache's state of the art CNC controlled flashcutter eliminates the time and necessity of creating cutting dies. The projection system shows exactly where the parts will cut on the material. Projection can also be used to trace an irregular shaped piece of material to "create" a material perimeter and automatically nest within its boundaries. Capable of nesting multiple parts for simultaneous cutting, it offers time and material savings. Unlike a waterjet cutter, parts remain dry and clean, so they are ready to be packaged and shipped straight from the cutting table.

COMMON SHEET PACKING POLYMERS	
▸ **Butyl (IIR / isobutyl-isoprene):** Excellent weathering and dialectic properties with low air permeability. Good physical properties. Poor resistance to petroleum-based fluids. **TEMP: -30°F to +212°F**	▸ **Nitrile (NBR / Buna-N / butadiene-acrylonitrile):** Excellent resistance to petroleum-based fluids. Good physical properties. **TEMP: -40°F to +200°F**
▸ **EPDM (ethylene-propylene diene):** Excellent ozone, chemical, heat and aging resistance. Poor resistance to petroleum-based fluids. **TEMP: -40°F to +250°F**	▸ **Silicone (SI / Dimethyl-Polysiloxame):** Excellent high and low temperature properties, fair physical properties. **TEMP: -80°F to +500°F**
▸ **Hypalon (CSM / chloro-sulfinated polyethylene):** Excellent ozone, weathering, and acid resistance. Good abrasion and heat resistance. Fair resistance to petroleum-based fluids. **TEMP: -20°F to +170°F**	▸ **SBR (Styrene Butadiene Rubber):** Excellent abrasion resistance and low temperature properties. **TEMP: -20°F to +180°F**
▸ **Natural Rubber (NR / Gum Rubber):** Excellent physical properties, including abrasion and resistance. Good flexibility at low temperature. Poor resistance to petroleum-based fluids. **TEMP: -20°F to 180°F**	▸ **Urethane (polyurethane) :** Good aging and excellent abrasion, tear and solvent resistance. Poor high temperature properties. **TEMP: -58°F to +180°F**
▸ **Neoprene (CR / polychloroprene):** Good weather resistance and good inherent flame resistance. Moderate resistance to petroleum-based fluids. Good physical properties. **TEMP: -20°F to 190°F**	▸ **Viton® (FKM / Fluorocarbon - Elastomer Type A):** Excellent oil- and air- resistance at both low and high temperatures. Very good chemical resistance. **TEMP: -20°F to +450°F**

Viton® is a registered trademark of DuPont Performance Elastomers

EXTRUDED PARTS

Apache has the capability to create extruded parts from a wide variety of compounds. Customers can choose from a vast selection of extrusion die profiles, or our in-house die shop can rapidly create one for quick production.

EXTRUSIONS

Extrusions can be processed into cut-to-length pieces, hot vulcanize spliced to specific lengths or preformed for un-split applications. We cure extruded parts using static vulcanization to a typical tolerance of RMA Commercial Class-E3.

COMMON EXTRUSION MATERIAL OPTIONS		
▸ Neoprene	▸ Isoprene (Synthetic rubber)	▸ EPDM
▸ Natural rubber	▸ Silicone	▸ Hypalon®
▸ SBR	▸ Nitrile (Buna-N)	▸ Viton®

SPECIALTY SERVICES

Have multi-component parts that need to be delivered ready to install? We offer sub-assembly services to save you time and money!

MOLDED RUBBER PARTS

Apache manufactures molded parts using modern computer-controlled and monitored presses. We offer both compression and transfer molding production processes, and we can help you determine which method is best for your application.

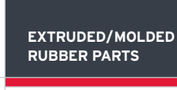
COMPRESSION MOLDING

Compression molding is ideal for products with industrial tolerances (typically RMA Commercial-A3). This process produces less scrap material weight and the tooling typically costs less than other transfer molding. Product sizes range from very small to up to 12 feet long.

TRANSFER MOLDING

Transfer molding can produce tighter tolerance parts than compression molding and generally leaves less flash on the mold parting line.

COMMON MOLDING MATERIAL OPTIONS		
▸ Neoprene	▸ Isoprene (Synthetic rubber)	▸ EPDM
▸ Natural rubber	▸ Silicone	▸ Hypalon®
▸ SBR	▸ Nitrile (Buna-N)	▸ Viton®



OTHER SPECIALTY SERVICES

In addition to producing custom cut, molded and extruded parts, Apache has many years of experience with custom fabrication, vulcanization and bonding.

CUSTOM FABRICATIONS / SPECIALTY SERVICES		
▸ Boots/sleeves	▸ Slitting	▸ Sub-assembly
▸ Hole punching/perforating	▸ Splicing	▸ Labeling
▸ Laminating	▸ Stripping	▸ Packaging
▸ PSA application (pressure sensitive adhesive)	▸ Vulcanizing	▸ Kitting

RUBBER VULCANIZATION AND RUBBER-TO-METAL BONDING

Parts for vulcanization and rubber-to-metal bonding require specific preparation processes to ensure proper adhesion of the materials. The team at Apache will design a process for your parts that meet the requirements of your industry and application.

COMPOUNDING / BLENDING CAPABILITIES

Standard and custom blended compounds are produced to your requirements in specific batch sizes made for each application and production run. Small prototype or large production batch runs are available for almost any size, shape or quantity of extruded or molded product.

Our experienced team of product specialists and engineers are ready to help produce your custom parts. We'll assist you in determining the material and process that makes the most sense for your application and help you stay cost effective and efficient.

IT'S TIME TO THINK FORWARD. IT'S TIME TO THINK APACHE.

APACHE

FOAM & SPONGE WORKSHEET

Here's what we need from you.

NAME:	
COMPANY:	
PHONE #:	
EMAIL:	
DATE:	

- **CAD DRAWING OF THE PART WITH TOLERANCES.** If material tolerances are not present, (and they frequently are not) inquire about the most critical dimensions. (R.M.A. Tolerances)
- **SAMPLE OF THE PART (IF AVAILABLE).**
- **MATERIAL SPECIFICATIONS OR POLYMER TYPE**
  - The full ASTM (American Society for Testing & Materials) call-out of the material is best
  - If the ASTM is not available, please provide specifications for...
    - ▸ Material:
    - ▸ Closed or open cell:
    - ▸ Shore 00 Durometer:
    - ▸ Density:
    - ▸ Tensile. (die A):
    - ▸ Tear strength. (die C):
    - ▸ Elongation. (die A):
    - ▸ Compression deflection:
    - ▸ Compression set:
    - ▸ UL recognition:
    - ▸ FDA (or other requirement):
    - ▸ PSA (pressure sensitive adhesive, rubber or acrylic based):
    - ▸ Color:
- **TELL US ABOUT THE APPLICATION AND ENVIRONMENT WHERE THE PART WILL BE USED:**
    - ▸ Service temperature:
    - ▸ Chemical contact:
    - ▸ Ozone resistance:
    - ▸ Water absorption:
    - ▸ Combustion characteristics:
    - ▸ Application:
- **QUANTITY AND ESTIMATED ANNUAL USAGE:**
    - ▸ Do you require the parts all at once?
    - ▸ Is this a blanket order with periodic releases? At what intervals?
    - ▸ Is this a repetitive, ongoing order?
- **DELIVERY REQUIREMENTS:**
    - ▸ When do you need the first shipment?
    - ▸ What is your preferred shipping method?
- **PACKAGING REQUIREMENTS OTHER THAN STANDARD BULK PACK:**
    - ▸ Labels (part number, UPC?)
    - ▸ Bagged or boxed quantity?
- **TARGET :**
    - ▸ Current price and current supplier?

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Download worksheets at www.apache-inc.com/worksheets

MOLDED & EXTRUDED PARTS WORKSHEET

Here's what we need from you.

NAME:

COMPANY:

PHONE #:

EMAIL:

DATE:

- **CAD DRAWING OF THE PART WITH TOLERANCES.** If rubber tolerances are not present, please tell us about the most critical dimensions (.stp or .igs file for tooling).
- **SAMPLE OF THE PART (IF AVAILABLE).** The sample will help us to determine what method of manufacturing has been used in the past.
- **MATERIAL SPECIFICATIONS OR POLYMER TYPE**
  - The full ASTM (American Society for Testing & Materials) call-out of the material is best
  - If the ASTM is not available, please provide specifications for...
    - Material:
    - Shore A durometer:
    - FDA (or other requirements):
- **TELL US ABOUT THE ENVIRONMENT WHERE THE PART WILL BE USED:**
  - Temperature:
  - Chemicals:
  - Ozone:
  - Application:
- **HOW WILL THE PART BE USED?** Statically, dynamically, for sealing, etc.? This is helpful in determining a part's critical features.
- **QUANTITY AND ESTIMATED ANNUAL USAGE:**
  - Do you require the parts all at once?
  - Is this a blanket order with periodic releases? At what intervals?
  - Or is this an repetitive, ongoing order?
- **TOOLING**
  - For molded parts, does tooling already exist?
  - If yes, do you own the tooling?
  - What type is it? Compression, transfer or injection?
  - Can it be moved from your current supplier?
- **DELIVERY REQUIREMENTS**
  - When do you need the first shipment?
  - What is your preferred shipping method?
- **PACKAGING REQUIREMENTS OTHER THAN STANDARD BULK PACK.**
  - Labels (part number, UPC?)
  - Bagged or boxed quantity?

CUT PARTS WORKSHEET

Here's what we need from you.

NAME:

COMPANY:

PHONE #:

EMAIL:

DATE:

- **CAD DRAWING OF THE PART WITH TOLERANCES.** If material tolerances are not present, please tell us about the most critical dimensions (.dxf/.dwg file to cut from).
- **SAMPLE OF THE PART (IF AVAILABLE).** The sample will help us to determine what method of manufacturing has been used in the past.
- **MATERIAL SPECIFICATIONS OR POLYMER TYPE:**
  - The full ASTM (American Society for Testing & Materials) call-out of the material is best
  - If the ASTM is not available, please provide specifications for...
    - Material:
    - Shore A durometer:
    - Density:
    - Tensile:
    - Elongation:
    - Compression set:
    - UL recognition:
    - FDA (or other requirements):
    - Pressure sensitive adhesive type:
    - Color:
- **TELL US ABOUT THE ENVIRONMENT WHERE THE PART WILL BE USED:**
  - Temperature:
  - Chemicals:
  - Ozone:
  - Application:
- **HOW WILL THE PART BE USED?** This is helpful in determining the part's critical features.
- **QUANTITY AND ESTIMATED ANNUAL USAGE:**
  - Do you require the parts all at once?
  - Is this a blanket order with periodic releases? At what intervals?
  - Or is this an repetitive, ongoing order?
- **DELIVERY REQUIREMENTS:**
  - When do you need the first shipment?
  - What is your preferred shipping method?
- **PACKAGING REQUIREMENTS OTHER THAN STANDARD BULK PACK.**
  - Labels (part number, UPC?)
  - Bagged or boxed quantity?

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WWW.APACHE-INC.COM

BELTING / HOSE / CUT & MOLDED PRODUCTS / ACCESSORIES

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FAX 319.365.2522
WEBSITE www.apache-inc.com

NIBA The Belting Association | NAHAD | PTDA | GFA Gasket Fabricators Association | NSF Certified to NSF/ANSI Standard 50

REV041118 AP37 99002242

The most current revision of this information can be found on our website at www.apache-inc.com and supercedes all other versions. Please check the revision date information of any printed materials to ensure the most current information is being referenced.

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