

# Success Story:

**Company Profile:**

CGR Products

**About:**

Custom Fabricator of Flexible Materials  
Founded in 1963  
ISO 9001:2008 certified

**Locations:**

Greensboro, NC  
Decatur, AL  
Waukesha, WI

**Serving Markets:**

MRO Applications  
Industrial OEMs – Automotive,  
Appliance, Electrical, Small Engine,  
Military and Government



*An OEM approached CGR Products requiring a number of unique foam seals for their heavy equipment. CGR applied waterjet cutting to Armacell's Ensolute foam to get the job done.*

## Manufacturing Crushed Foam Seals for a Heavy Equipment OEM

### The Problem

A heavy equipment original equipment manufacturer (OEM) needed a number of different types of foam seals for their equipment.

The first supplier they contacted was CGR Products. A widely trusted manufacturer of custom flexible non-metal components, CGR was already on the OEM's approved supplier list.

The seals the OEM was looking to procure required a range of thicknesses, they needed to provide a quantifiable level of noise reduction, and meet a variety of very stringent global specifications. The seals needed to meet all of these criteria or they would not be approved by the OEM.

### The Challenges

The foam seals the heavy equipment OEM required posed several challenges to the team at CGR Products.

First, some of the seals had to be uncommonly thick. A few of the larger seals had to be up to 90mm thick, which is thicker than the available raw material. The OEM and CGR determined that multiple plies of thin foam could be laminated together to create seals thick enough for their needs. This led to the second hurdle, that any adhesives designed into the seals for laminating purposes needed be thoroughly tested before manufacturing began.



*CGR laminated multiple plies of thin foam together to meet the OEM's custom thickness. multiple plies of thin foam together to meet the OEM's custom thickness.*



Engineered For Success.

The third unique challenge was that the OEM required several rounds of samples, and prototype seals had to pass an array of trials and tests performed by the OEM.

When CGR Products first received the OEM's request and looked at the requirements, they knew immediately that creating such seals would require the use of Armacell's Ensolite® foam known for its exceptional sealing characteristics.



*Parts are packaged into the customer's totes with returnable bins.*

## Why Ensolite?

CGR Products ultimately selected Ensolite EF0 and Ensolite FC0 for the project. CGR chose these two materials for two reasons:

1. First, they each meet a wide variety of industrial, manufacturing, and automotive specifications — including the global specifications that the OEM needed to meet.

2. Second, Ensolite EF0 and FC0 foams have excellent physical properties. Essential for the air pocket-filling requirements of the application, they have quick decompression and recovery times — 25% compression deflection values of a maximum of 1.0 psi and 0.4 psi respectively.

## The Solution

In order to create the foam seals the heavy equipment OEM required, CGR Products worked with the OEM's engineering team to select a suitable foam and adhesive based on the customer's specifications and to develop a satisfactory laminating process to create the required thicknesses. After sending the OEM a selection of samples so they could test the adhesives, CGR Products got the green light and began production based on precise weekly orders from the OEM.

First, the skived rolls of foam were laminated together to create the desired thicknesses, ranging from 5mm to 90mm. Next a Pressure Sensitive Adhesive (PSA) was laminated to the foam to provide a method to attach the part to the customer's substrate. Lastly the parts were cut using either a die cutting process or by waterjet cutting.

Altogether there were over 100 unique parts required by the customer to be used on multiple pieces of equipment they manufactured. CGR makes multiple shipments each week to multiple plants. Parts are packaged into custom totes, barcoded with custom labels, and shipped with exact quantities in each tote.

## CGR Products

Since 1963, CGR Products has been at the forefront of non-metal component manufacturing. Having developed extensive machining capabilities and a wealth of design expertise, CGR is particularly well qualified to manufacture even the most rigorously specific custom parts.

To learn more about CGR Products, visit their website [www.cgrproducts.com](http://www.cgrproducts.com) today.

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