



# Polybond North America, Inc.

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## INTRODUCTION



# Polybond North America History

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1993 - Founded by ex-Barry Controls engineers and managers as EPSG, Inc. focused on bringing industry leading solutions and products to the ASD, Industrial, Medical and Transportation markets.

2014 – EPSG, Inc. Purchased by Polymer Technologies and renamed as the Elastomeric Solutions Division (ESD).

2023 - The ESD division was purchased by Polybond India Pvt Ltd, creating the wholly owned subsidiary of Polybond North America, Inc.

**Focused on providing vibration isolation solutions to Industrial/Vehicle, ASD and Electronics OEMs.**



# Polybond India Pvt Ltd – Parent Company

Family-owned business in existence since 1978.

Based out of Pune in India, Polybond operates 4 manufacturing plants in India.



Rubber-Metal parts

52%



Rubber Moulded parts

22%



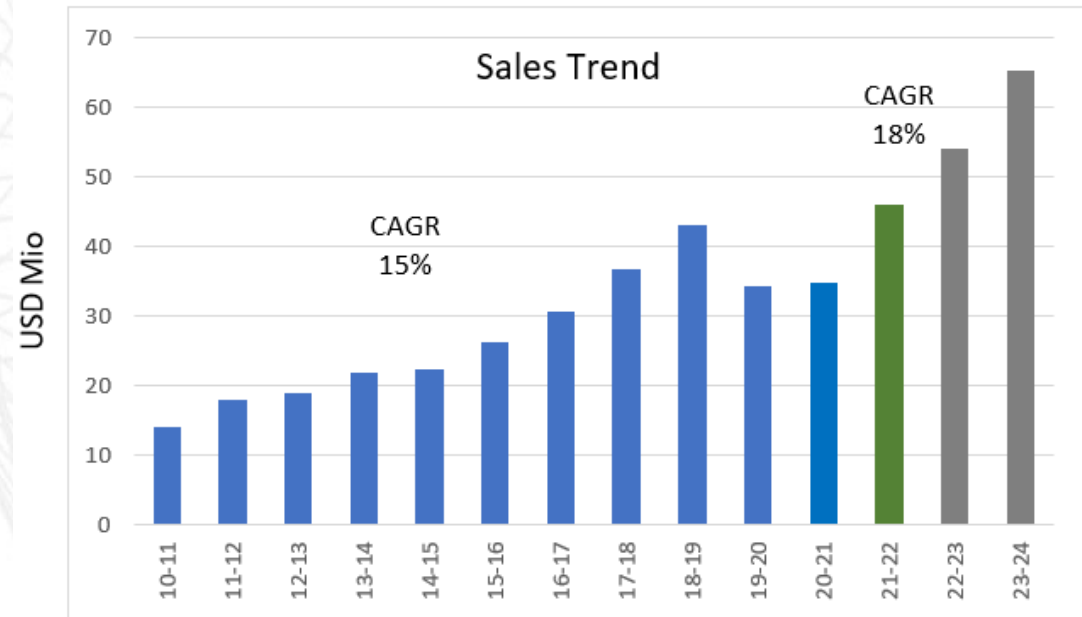
Silicone Hose

15%



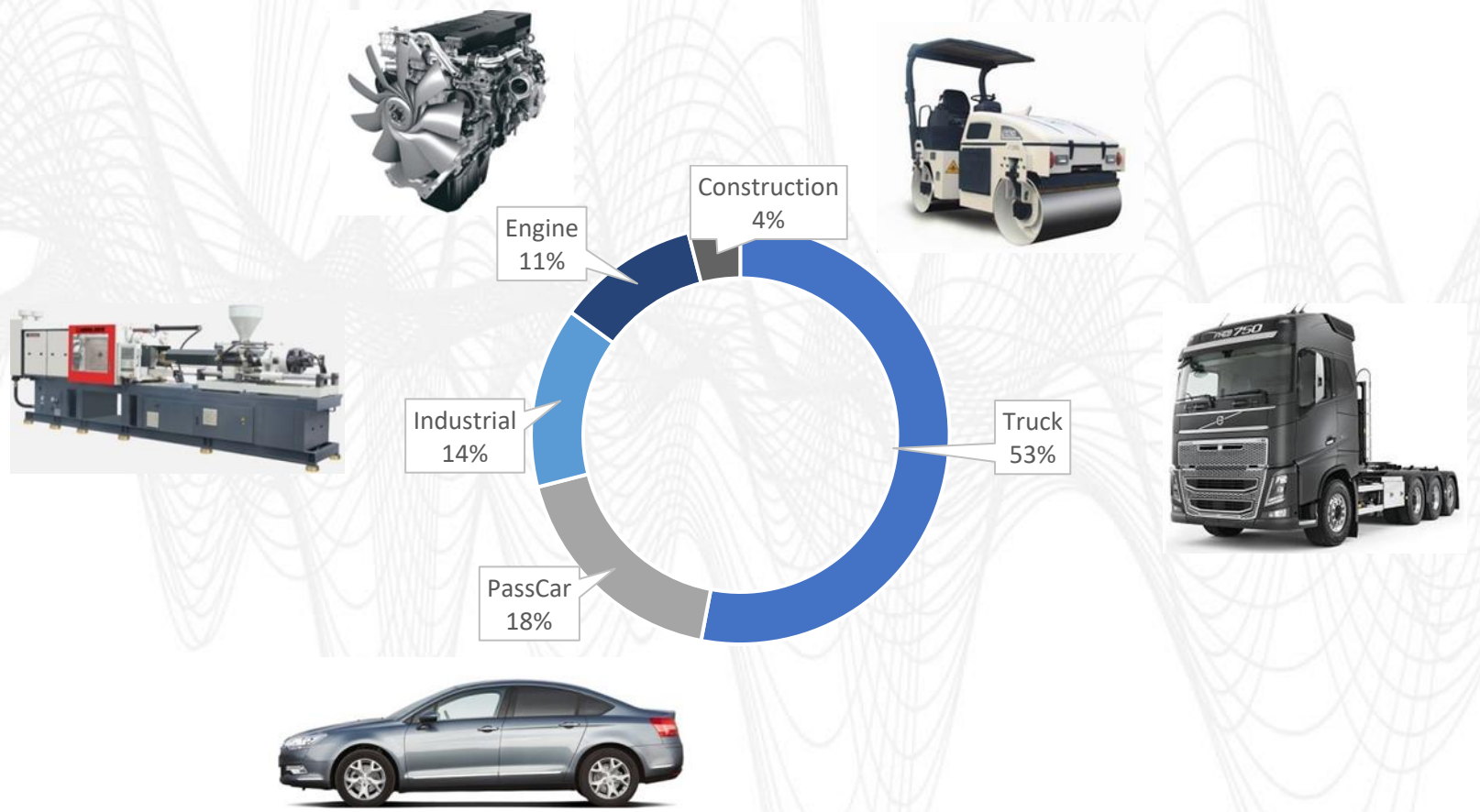
Extruded Hose

7%

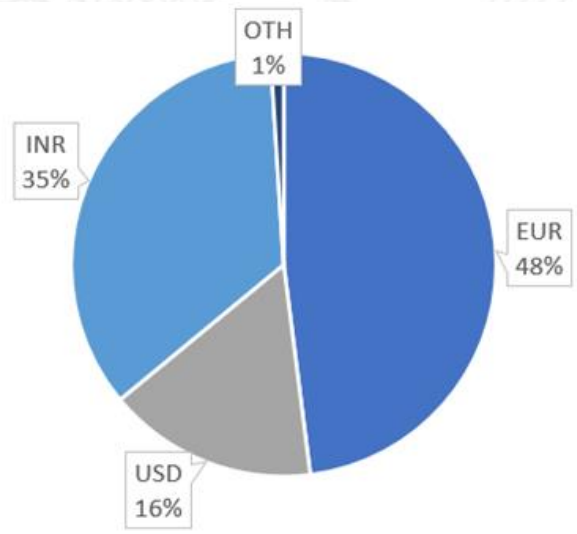




# Polybond India Markets



## Geographic Mix







# Polybond India Vehicle Customers

The image displays a grid of logos for Polybond India's vehicle customers, organized into three main sections. The left section contains logos for Volvo, Mack Trucks, Daimler, Tata, Ashok Leyland, Renault Trucks, DAF (A PACCAR COMPANY), Kenworth, Peterbilt, Fuso, Man, Eicher, Scania, and Force. The central section, enclosed in a blue-bordered box, features logos for Vorwerk Autotec, BMW, Mercedes-Benz, GM, Volkswagen, Audi, and Tesla. The right section includes logos for ZF, TitanX, Facil (flexible fastening solutions), Kongsberg Automotive, Promens, BP, Firestone, Denso, and Modine (Applied Thermal Innovation™).

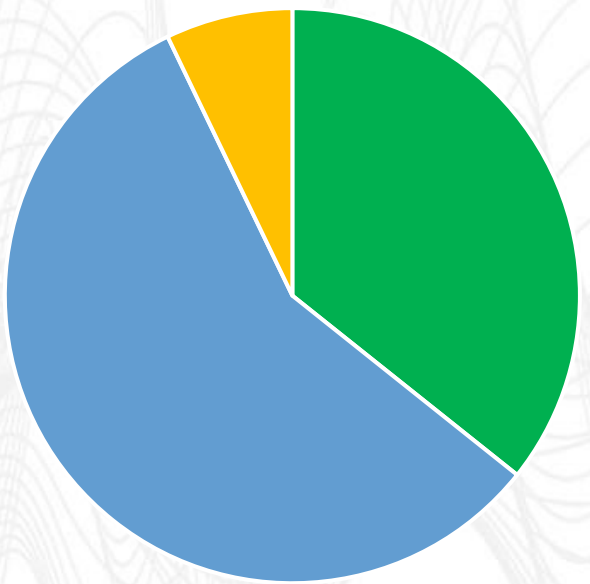


# Polybond India Industrial Customers

          	         	         
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# Polybond North America Markets



- Aerospace/Defense
- Industrial/Vehicle
- Medical/Electronic







# Polybond North America Value

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Polybond North America provides industry leading engineered vibration isolation solutions to the North American Industrial/Vehicle and ASD OEM markets.

Polybond North America provides quality and delivery expectations providing both domestic and international manufactured products.

Polybond North America is focused on developing new products and materials that can help our customers improve their product performance and thereby increase their market share and profitability.





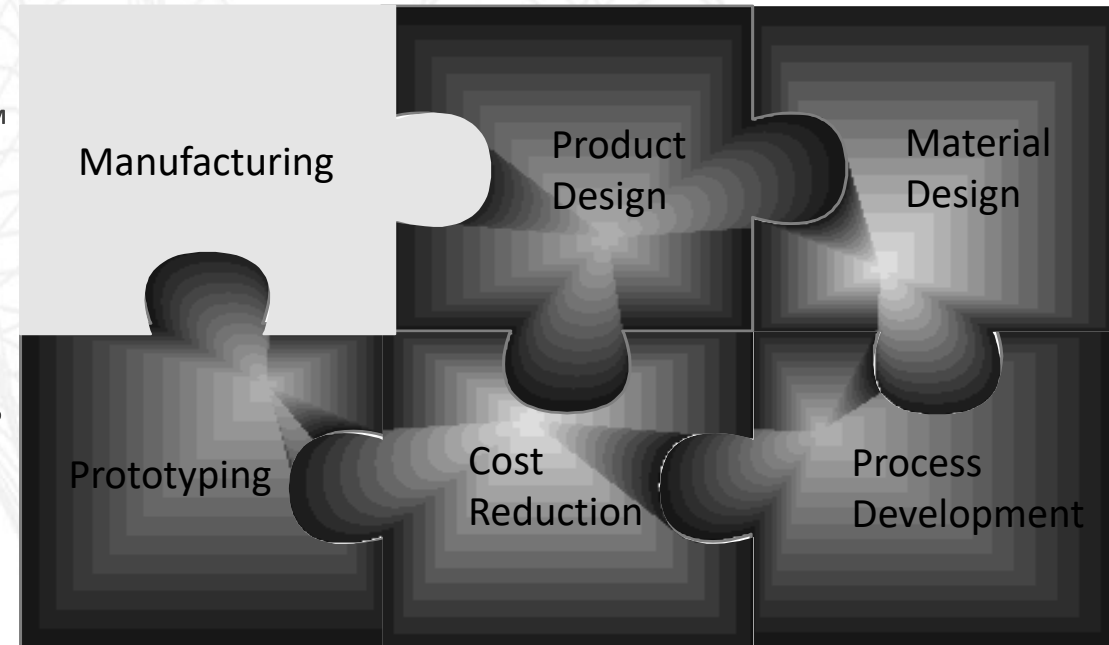
# Polybond North America Product and Process Development

Polybond North America manages projects, either new designs or cost reducing existing designs, from concept through production.

**Design and Analysis** – CATIA, ProE™, SolidWorks, Ansys™ FEA with fatigue algorithm ABAQUS, AVIAP custom proprietary vibration analytical software

**Prototype** - SLA, FDM, LOM, Epoxy, and Aluminum molds. Along with these techniques, Polybond North America can suggest various materials such as urethanes and elastomers that can represent the product design.

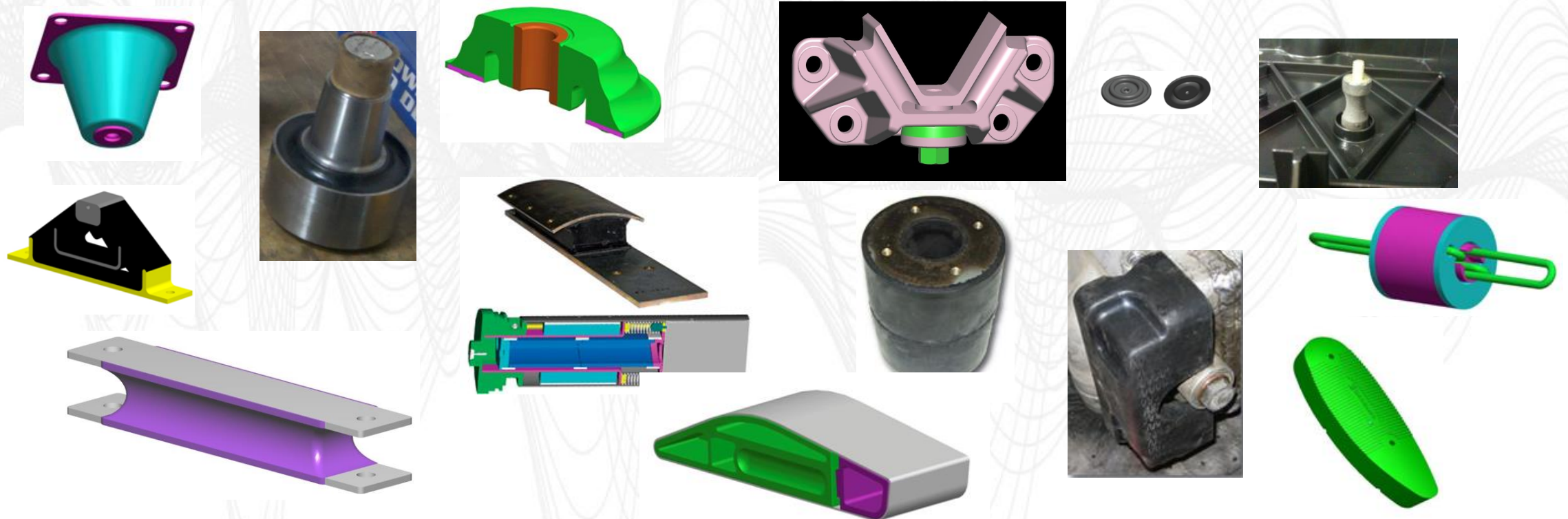
**Process Development** - Injection Molding, Compression & Transfer Molding, LIM Liquid Injection Molding, Open Casting Urethane, Multi-Material “Two Shot Molding”, Custom Processes





# Polybond North America – Engineered Products

Here is a sample of Polybond North America development projects





# Polybond North America Standard Products

Polybond North America had a full range of standard off-the-shelf vibration isolators, that can be applied to many new and existing applications.

An electronic copy of the catalog will be sent to your organization - hard copies can be sent upon request.

To ensure proper selection for a new applications Polybond North America engineers can work with your specifications to make the selection that provides the best performance and durability.







# Polybond North America Testing

To help customers validate vibration isolation mounts, Polybond North America can simulate the duty cycle vibration fatigue - the mount can therefore be approved without extensive field or customer lab tests.

- Static load deflection
- Dynamic load deflection
- Fatigue testing based on amplitude and frequency
- Creep testing at room and high temperatures
- FTIR Spectrometer
- NMR Spectroscopy
- Mass Spectrometry



Fatigue Test Machine





# Polybond North America Rubber Materials

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Polybond North America develops and custom blends elastomeric materials to meet and exceed customer specifications.

Currently Polybond North America has over 3500 unique elastomeric formulations.

DuraFlex® ultra-high fatigue life rubber was developed to drastically improve the life of very high deflection applications.

Wide array of MILSPEC certified materials.

FTIR, NMR, Mass Spectroscopy - formula reconstruction.





# Polybond North America Rubber Materials - Duraflex™

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Duraflex™ is formulated to drastically reduce heat build up in the rubber during rugged high strain application. Results: ultra long rubber mount life vs all other rubber compounds.

Applications include AG and CE equipment cab and engine mounts, vibratory compactor drum mounts, vibratory aggregators, vibratory tampers.



# Polybond North America – Duraflex<sup>®</sup> Value Analysis – Truck Engine Mount

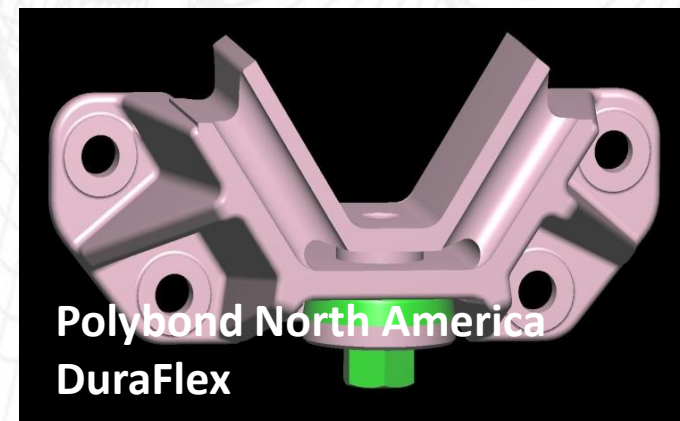
Using ANSYS FEA, fatigue and AVIAP proprietary vibration analytical software, we were able to remove 13 lbs per truck weight savings and significant cost savings.

Eliminated: 4 bolts, 4 washers, 1 weldment.

Labor saved: no sub-assembly, top-down, no backup wrench/RMI.

Integrated-serviceable, low-gap-high-damp snubber & nut.

Duraflex<sup>®</sup> ultra-high-fatigue life.







# Polybond North America – Duraflex®

## CDA –Truck Engine Mount

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2027 emission standards are pushing heavy truck and diesel engine manufacturers to find ways to reduce emission. **Cylinder Deactivation (CDA)**, or called Skip Fire, reduces cylinder firing during truck idle.

Deactivated cylinders during idle creates excessive vibration that is not acceptable for proper truck operation and driver discomfort.

Polybond North America has been contracted by CDA control company and heavy diesel engine manufacture to design and prototype an engine mounting.

Using our Duraflex® material, we designed and prototyped an engine mounting design that was able to reduce, significantly, the vibration transmitted to the structure and driver.





# Polybond North America ISO/AS Certification

**Certificate of Registration**

**nqa** global assurance

This is to certify that the Quality Management System of:

**Polybond North America**  
76 Astor Avenue Bldg. 101  
Norwood MA 02062  
United States of America

applicable to:

**Design and Manufacture of shock and vibration components.**

has been assessed and approved by  
National Quality Assurance, U.S.A., against the provisions of:

**ISO 9001:2015 and AS9100:2016**  
and in accordance with the requirements of AS9104/1:2012.

*[Signature]*

For and on behalf of NQA, USA

**ANAB**  
ACCREDITED  
MANAGEMENT SYSTEMS  
CERTIFICATION BODY

Certificate Number: 19906  
EAC Code: 14  
Certified Since: March 31, 2021  
Valid Until: March 30, 2024  
Reissued: January 24, 2023  
Cycle issued: March 31, 2021  
Site Structure: Single Site

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This approval is subject to the company maintaining its system to the required standard, which will be monitored by NQA, USA, 289 Great Road, Suite 105, Acton, MA 01720, an accredited organization under the Aerospace Registrar Management Program.



# Polybond North America Global Footprint

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Polybond North America  
Hdqrs, Tech Center, Mfg  
Norwood, MA



Polybond North America  
(Partner), Mfg  
Ningbo, China

Polybond India Pvt Ltd  
Parent Company Hdqrs, Mfg, Tech Center  
Pune, India