

# LORD® 7412 Urethane Adhesive

## Description

LORD® 7412 adhesive is a single-component, moisture-cure urethane adhesive offering excellent adhesion performance between various thermoplastic substrates and fabrics. It successfully bonds Hytrel®, thermoplastic polyurethane (TPU), Nylon 11 and other thermoplastics to fiber reinforcements, such as polyester and Kevlar®.

## Features and Benefits

**Non-Flammable** – provides a 100% solids formula that contains no solvents; does not require explosion-proof equipment.

**Convenient** – requires no mixing; requires no ovens or other heat source for curing.

**Environmentally Resistant** – resists sunlight, weathering, humidity and salt spray.

**Chemically Resistant** – solvent resistant when cured. Painting and most cleaning processes do not affect bond strength.

*Hytrel and Kevlar are trademarks of E. I. du Pont de Nemours and Company.*

## Application

**Surface Preparation** – Surfaces should be free of grease, dirt, mold release and other contaminants.

**Applying** – Heat LORD 7412 adhesive to 100-200°F (38-93°C) prior to application. Accurate temperature control is a critical factor in maintaining an acceptable application viscosity. Two methods of heating can be used to reduce the viscosity; oven or hot melt type dispensing equipment. Either method requires the ability to adjust the set point and allow the user an appropriate level of process control.

- **Oven Method**  
Preheat LORD 7412 adhesive in the shipping container, then pour adhesive into the reservoir or pump directly from the shipping container onto the part to be bonded.
- **Thermoplastic Hose Production Line**  
Equipment is available which will heat and dispense the adhesive onto the extruded core prior to applying the extruded jacket. An example of this method is hot melt dispensing equipment.

**Cleanup** – Use solvents such as acetone or methyl ethyl ketone (MEK) to clean up uncured adhesive. Remove cured adhesive by mechanical methods.

## Typical Properties\*

Appearance	White/Off-white Paste
Viscosity, cP @ 122°F (50°C) Brookfield HBF Spindle 5, 10 rpm	80,000 - 400,000
Density	
lb/gal	8.7 - 9.3
(kg/m <sup>3</sup> )	(1043 - 1115)
Solids Content by Weight, %	100
Flash Point (Seta), °F (°C)	>200 (>93)

\*Data is typical and not to be used for specification purposes.

# LORD TECHNICAL DATA

## Typical Cured Properties\* and Bond Performance (ASTM D882-A3A, modified)

Tensile Strength at Break, psi (MPa)	5500 (37.9)
Elongation, %	230-380
Tear Strength, pli (N/mm)	750 (132)
T-Peel, pli (N/mm) ASTM 1876-72	
Hytrell 5556	50-55 (8.8-9.6)

\*Data is typical and not to be used for specification purposes.

## Shelf Life/Storage

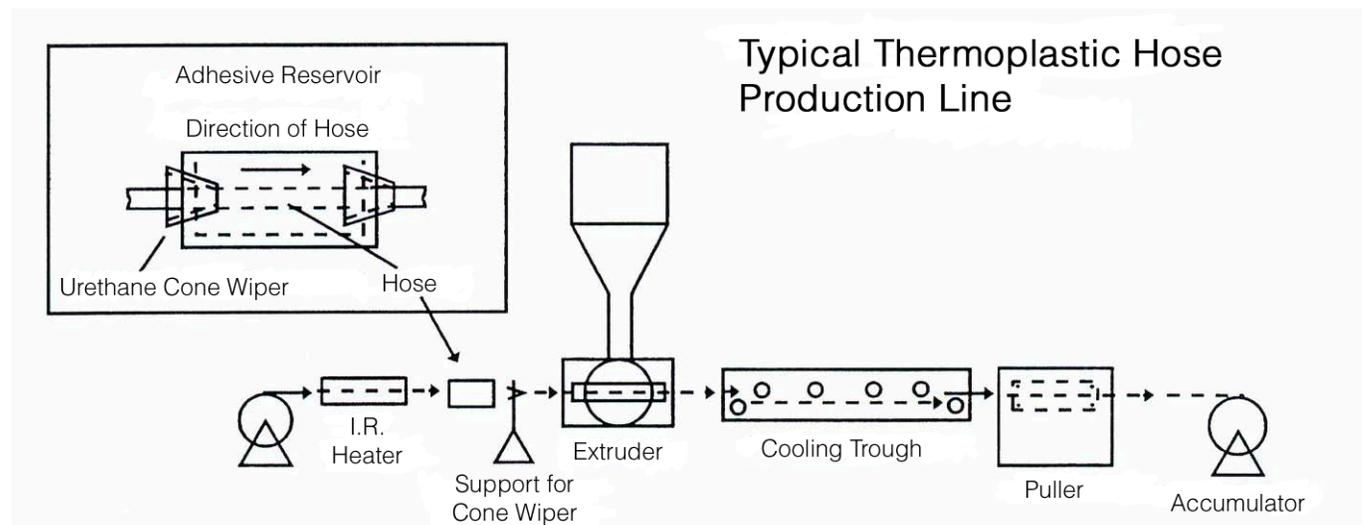
Shelf life is six months from date of shipment when stored in clean, dry environment at 40-80°F (4-27°C) in original, unopened container.

After opening, protect adhesive from excessive exposure to moisture by using dry nitrogen as an inert cover each time material is removed. Do not return dispensed material to its original container. The viscosity of this product will increase over time.

## Cautionary Information

Before using this or any LORD product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

*For industrial/commercial use only.* Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.



Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

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