

# TOUGHSHELL

ELIMINATING PAINT PROBLEMS



## TIME-TESTED PROTECTION FOR WOOD DOORS

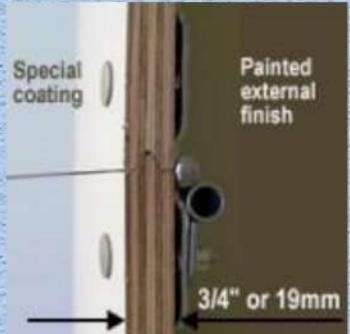
TODDCO introduced the ToughShell coating in 1999 to solve major problems wooden roll-up doors face, especially moisture and weather damage. Traditional paints fail because wood naturally expands, contracts, and flexes, but ToughShell is a multi-layer liquid polymer coating specifically designed to move with wood. Its layers work together to form a strong mechanical bond that protects doors against moisture, abrasion, temperature extremes, harsh chemicals, and UV damage. With ToughShell primer and either a ToughShell topcoat or TODDCO-approved automotive paint, TODDCO plywood dryfreight doors offer exceptional durability and some of the longest warranties in the industry.

## Equipment Specification:

*Tough and proven dry freight door.*

This 19mm plywood panel has 7 premium grade veneers. The outer veneers are from selected special hardwoods to give a smooth and tougher exterior finish.

A patented formulation of liquid polymers known as "Toughshell" is applied over the exterior and interior surfaces of the panel. This state-of-the-art skin coat creates a barrier against moisture, UV rays, chemicals and temperature as well it removes any trace of the woodgrain from the outer veneers.



TEST RESULTS	TOUGHSHELL	TOUGHSHELL	Competitive MOD/paint
Adhesion (Dry)	5B	5B	18-28
Hardness Wet	4H-6H	2H	FAIL
Humidity	PASS	PASS	FAIL
Water Immersion	PASS	FAIL	PASS
Freeze/Thaw	PASS	PASS	PASS

**ToughShell Coating System**  
 ToughShell coating is a multi-coat finishing system which consists of a 4-step prep and 4-step final coat for a Tough UV cured finish. These proprietary coatings give the door maximum protection and best serviceability available in the market.

**Topcoat warranty**  
 TODDCO will warrant doors with ToughShell primer and approved topcoat paints for up to three years.

**Ultraviolet process**  
 An ultraviolet process cures ToughShell instantaneously, protecting against surface damage that can occur when paint is not fully dry.

**Topcoat colors**  
 ToughShell is available as a topcoat in limited colors.

**Superior intercoat adhesion**  
 ToughShell primer achieves superior intercoat adhesion with the best automotive-type paints.

**Protect against wide ranges of climate**  
 When exposed to the elements and wide ranges of climate, ToughShell coating achieves the industry's best adhesion to the plywood core.