

MasterWeld® 654

High performance hybrid structural adhesive

FORMERLY DEGABOND™ 54

PACKAGING

- 300 ml (10.1 fl oz) cartridges, 24 cartridges per carton
- 20 oz (590 ml) sausages, 20 sausages per carton

COLORS

White and black

YIELD

A 300 ml cartridge provides approximately 24 lineal feet in a 1/4" (6 mm) bead.

STORAGE

Store in original, unopened containers in a cool, dry area. Protect unopened containers from heat and direct sunshine. Storing at elevated temperatures will reduce shelf life.

SHELF LIFE

9 months when properly stored

VOC CONTENT

0.02 lbs/gal or 2.5 g/L, less water and exempt solvents.

DESCRIPTION

MasterWeld 654 is a premium, fast-curing, ready to use, one-part structural adhesive. It combines the best qualities of organic and silicone technologies. MasterWeld 654 accommodates extreme environmental conditions to maintain structural integrity over time.

PRODUCT HIGHLIGHTS

- High adhesive strength can replace mechanical fasteners enabling faster production processes
- Fast curing formulation speeds production processes
- Primerless application eliminates a step in the application process to allow for quicker process completion
- One-component, ready to use material reduces labor while improving application speed

LOCATION

- Assembly of metal buildings
- Various truck, bus, and trailer assemblies
- Rail car and cargo container assemblies
- Assembly of manufactured homes

Technical Data

Composition

MasterWeld 654 is a solvent-free formulation based on hybrid polyurethane technology.

Compliances

- ASTM C 920, Type S, Grade NS, Class 35, Use NT, M, A, G, and O
- Federal Specification TT-S-001543A, Type II, Class A, Type Nonsag
- Federal Specification TT-S-00230C, Type II, Class A
- Corps of Engineers CRD-C-541, Type II, Class A

Typical Properties

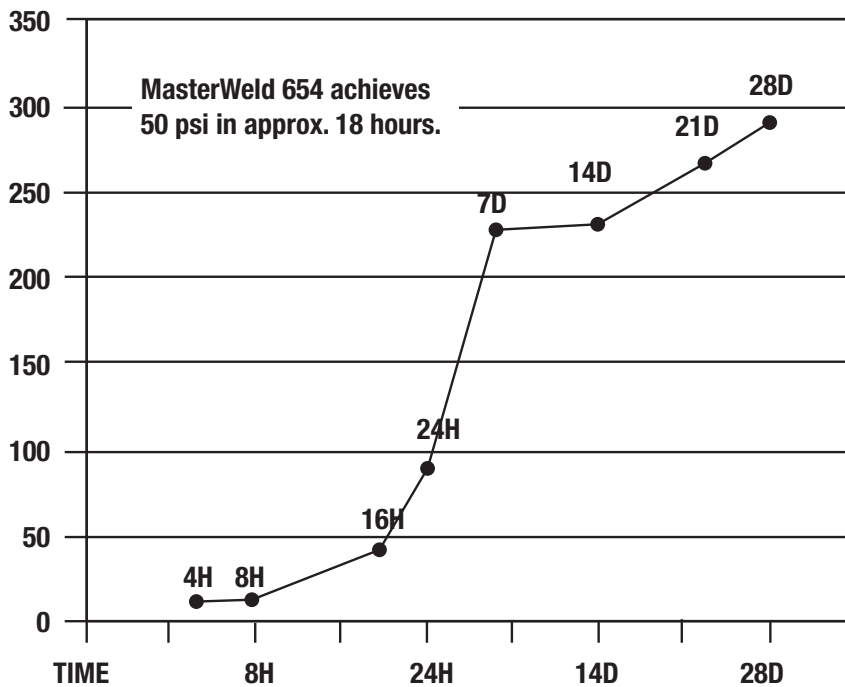
PROPERTY	VALUE
Service temperature range, ° F (° C)	-40 to 220 (-40 to 104)
Expected life	Up to 25 years
Shrinkage	None

Test Data

PROPERTY	RESULTS	TEST METHOD
Lap shear, psi (MPa)	35 (@ 24 hrs)	ASTM D 1002
Tensile strength, psi (MPa)	465 (1.5)	ASTM D 412
Tear strength, lb/in (kg/cm)	101 (7.1)	ASTM D 1004
Ultimate elongation at break, %	890%	ASTM D 412
Hardness, Shore A, at standard conditions	42	ASTM C 661
Tack-free time, minutes	25 ± 5	ASTM C 679
Skin time, minutes	25 – 40	Industry method
UV Resistance	High	Industry method
adhesion* in peel, pli (kg/cm), (minimum 5 pli [0.89 kg/cm])		ASTM C 794
Aluminum	42 (6.2)	
Glass	40 (5.8)	
Weathering, Xenon arc, 2,000 hrs	No Degradation	ASTM G 151, G 155

*Concrete primed with MasterSeal P 179 for water immersion as indicated in ASTM C 920.
 Test results are averages obtained under laboratory conditions. Reasonable variations can be expected.

MasterWeld 654 Strength Gain



HOW TO APPLY

SURFACE PREPARATION

1. Surfaces must be structurally sound, fully cured, dry, clean and free of dirt, moisture, loose particles, oil, grease, asphalt, tar, paint, wax, rust or other substances/contaminants which may affect adhesion or curing.
2. MasterWeld 654 should be applied directly to the contacting materials for best adhesion and to avoid delamination.
3. Substrates must be sound, well bonded, properly cured, and of sufficient depth to comply with manufacturer's specifications.

METAL

1. On metal surfaces, remove rust and any loose particles from surface.
2. On prepainted metal, check compatibility and adhesion before applying MasterWeld 654.
3. Test any coating that cannot be removed from the surface to verify adhesion of sealant or to determine an appropriate primer.

WOOD

1. New and weathered wood must be clean and sound.
2. Scrape away loose paint to bare wood.
3. Test any coating that cannot be removed from the surface to verify adhesion of sealant or to determine an appropriate primer.

APPLICATION

1. MasterWeld 654 creates "rivet-like" adhesion to a wide variety of materials and substrates to establish permanent, high-strength elastic bonds. MasterWeld 654 is a primerless adhesive, so no need for special pre-treatments in most applications. It bonds extremely well to a wide variety of substrates and is resistant to UV radiation, weather extremes and aging.
2. MasterWeld 654 comes ready to use. Apply by heavy-duty sealant/adhesive gun. Do not open cartridges or sausages until preparatory work has been completed.
3. Fill joints from the deepest point to the surface by holding a properly sized nozzle against the back of the joint.
4. Proper tooling ensures the correct bead configuration and a neat joint. Equally important, it ensures maximum adhesion to the sides of the joint. For best results, dry tool. Avoid overtooling of sealant.
5. Best practices dictate that all product application be done when temperatures are above 40° F (4° C) to avoid application to moisture-laden surfaces. Moisture on substrates will adversely affect adhesion. Application may proceed as low as 20° F (-6° C) if there is certainty that substrates are completely dry, free of frost, and clean as described under Surface Preparation.

CURING

The cure time of MasterWeld 654 varies with temperature and humidity. The following times assume 75° F (24° C), 50% relative humidity and a joint 1/2" (13 mm) in width by 1/4" (6 mm) in depth.

Skins: within 1 hour

Functional: within 24 hours

Full cure: approximately 1 week

CLEAN UP

Immediately after use, clean equipment with the appropriate solvent. Use proper precautions when handling solvents. Remove cured sealant by cutting with a sharp-edged tool. Remove thin films by abrading.

FOR BEST PERFORMANCE

- In cool or cold weather, store container at room temperature for at least 24 hours before using.
- Do not allow uncured MasterWeld 654 to come into contact with alcohol-based materials or solvents.
- Do not allow MasterWeld 654 to come into contact with oil-based caulking, silicone sealants, polysulfides or fillers impregnated with oil, asphalt or tar.
- MasterWeld 654 should not be used for continuous immersion in water. Contact Technical Service for recommendations.
- Do not apply over freshly treated wood; treated wood must have weathered for at least six months.
- Lower temperature and humidity will extend curing times.
- MasterWeld 654 can usually be painted over after a thin film or skin forms on the surface.
- Make certain the most current versions of product data sheet and SDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbcst@basf.com or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only,
call ChemTrec® 1(800)424-9300.**

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