

Technical Data Sheet

GEN-U-LINE 4000 Series

Low V.O.C. 2-Component Polyurethane Game Line Paint System

Product Description:

GEN-U-LINE 2-component polyurethane line paints are high gloss, flexible, non-yellowing and wear resistant coatings which exhibit excellent adhesion to most sport surfaces.

Intended use:

GEN-U-LINE Line Paints are intended for interior or exterior use as game line marking paints in athletic facilities. They can be used on synthetic, rubber or wooden surfaces (providing appropriate surface preparation procedures are respected).

Standard Colors:

White	4100	Yellow	4500
Black	4200	Green	4600
Blue	4300	Orange	4700
Red	4400		

Physical properties of Parts "A" & "B" mixed:

	Specific Gravity (ASTM D1475)	V.O.C. in gr./liter mixed A & B	Coverage per 1.25 lt.*
White (4100)	1.155	246	300 - 400
Black (4200)	1.037	249	300 - 400
Blue (4300)	1.063	244	300 - 400
Red (4400)	1.060	233	300 - 400
Yellow (4500)	1.125	225	300 - 400
Green (4600)	1.125	249	300 - 400
Orange (4700)	1.107	233	300 - 400

*Linear feet/unit based on a 2 "wide line.

NOTE: Recommended film thickness is 2 - 2.5 mils dry. Some colors may require more than 2 mils dry film thickness for perfect hiding.

Mixing Ratio: 4 Parts “A” with 1 Part “B” by volume.

For best results, wait 10 – 15 minutes after mixing before applying the paint.

Pot Life: 4 hours @ 77°F (25°C) and 50% R.H.

Drying Time (ASTM 1640): (At 21°C/70°F and 50% R.H.)	Drying times may be accelerated with the addition of our 292-1AC Accelerator .
Recoat time:	Wet-on-wet 30 minutes after first application.
Touch dry:	24-36 hours
Light traffic:	72 hours
Heavy traffic:	7 days
Full chemical cure:	10 days

Test Results

Test	ASTM	Result
Viscosity	D562-81	70 KU + /-2
Specular Gloss	D523	➤ 90%
Percentage Solids	D1644	72 + /- 2% by weight
Adhesion (Cross Cut)	D3359	5B
Hardness	D3363	HB
Solvent Resistance	D4752	Pass: 100 MEK rub
Impact Resistance	D2794	Pass: 60 in. lbs.
Flexibility	D522	Pass: 1/8” Mandrel bend

Shelf life:

Part A: 5 years

Part B: 2 years

If stored in its original container, unopened and in a heated warehouse.

Application:

General Guidelines:

- 1) Close the facility to all traffic before starting any work on the game lines. Close all doors and windows to reduce dust.
- 2) If possible, close the ventilation or air conditioning system to avoid dust settling in the paint.
- 3) For proper results, the **GEN-U-LINE** game line system should be applied at a temperature range between 18°C (65°F) and 30° (85°F) and a relative humidity between 20% and 60%.
- 4) Before applying the **GEN-U-LINE** game line paint system, make sure that the layout of the lines is correct. Once painted, the lines cannot be removed without causing damage to the floor.

Surface preparation:

- 1) Dust and dirt are contaminants. They will negatively affect the bond of the **GEN-U-LINE** paint to the surface of the flooring. It is very important to avoid contamination of the floor's surface during the installation and painting process. This includes eliminating the potential of other trades working in, or adjacent to, the flooring installation work space. The site may be opened to other trades after the installation of the flooring and the painting of the game lines. The site must be kept off limits to other trades and foot traffic for a minimum of 72 hours after the completion of the game line painting. Rolling/static loads such as bleachers or portable equipment should not be allowed until 7 days after application of the **GEN-U-LINE** Game line paints.
- 2) In the event the flooring's surface does get contaminated, it is best to dust mop all dirt and debris before proceeding further. Once "broom clean", wash the flooring with an auto-scrubber and clean water. This may require multiple passes. Even after this step, residue may remain, and this too could potentially compromise the bond of the **GEN-U-LINE** primer/paint. Drywall dust can be hard to see even after it has been cleaned with an auto-scrubber after multiple passes.
- 3) Once cleaned using the aforementioned steps, use clean white beach type towels soaked in acetone and wrapped around either a wide push broom or dust mop. Change the towels often. Clean the floor in this fashion until no more dirt or dust is seen on the towel. There is no short stepping this process. **The flooring's surface must be absolutely clean prior to priming and painting.**
- 4) Use a good quality masking tape to mark the perimeters of the lines. 3M 233 or 3M 2097 EL are recommended. Make sure the edges of the tape are well sealed to the floor.

- 5) If the painted lines are crossing over a heat welded seam, it is recommended to abrade the seam with a coarse sandpaper to promote optimum adhesion.
- 6) Wash the lines with a Cleaning Solvent. **2452 Zero-V.O.C. Thinner** or **Acetone** is recommended. Wipe using clean, 100% white cotton rags. To prevent fire hazard - discard used rags in a fireproof container in accordance with local regulations. Do not smoke in the area and keep away from any source of flame, sparks or pilot lights.
- 7) If the flooring is rubber, it must be treated with **POLYBOND 4988 Surface Conditioner** just before coating. If more than six hours pass from the time the POLYBOND is applied and the lines are painted, The POLYBOND 4988 must be reapplied before painting.

Application of the Game Line Paint Primer:

The **GEN-U-LINE 4445 Polyurethane Game Line Paint Primer** may be used on embossed surfaces to reduce the “bleed” of paint under the masking tape. It is not essential for proper bonding to the sports surface, only recommended if the applicator prefers to seal his tape before the application of the **GEN-U-LINE Game Line Paints**.

The GEN-U-LINE 4445 Primer is a two part system consisting of Part “A” and Part “B”. Please follow the mixing instructions carefully.

- 1) Be sure the lines are fully prepared and all necessary equipment is ready before mixing Parts A & B.
- 2) Mix Part A well, prior to blending.
- 3) Add one can of Part “A” (1 Qt.) to one can of Part “B” (Pint). This represents a mixing ratio of 2 parts “A” with 1 part “B” by volume.
- 4) Mix A and B together thoroughly, scraping sides and bottom of container.
- 6) Do not mix more material than can be used within 3 hours.
- 7) For best results, wait 10 – 15 minutes after mixing before applying the paint.

GEN-U-LINE Line Paints dry by evaporation and chemical reaction between Parts A and B. It is imperative to use the recommended mixing ratio and to mix well.

- 1) Apply the **GEN-U-LINE 4445 LINE PAINT PRIMER** by roller to help prevent the line paint from bleeding under the masking tape.
- 2) **GEN-U-LINE 4445** may be recoated “wet-on-wet” with the **GEN-U-LINE** Polyurethane Game Line Paints as soon as 45 - 60 minutes after first application. The coating will dry to the touch within 8 hours. If more than 24 hours pass from the application of the **GEN-U-LINE 4445** Game Line Marking Paint Primer, a light abrasion of the coating is required before the application of the **GEN-U-LINE** Polyurethane Game Line Paints.

Application of the Game Line Paint:

Mixing instructions:

- 1) Be sure the lines are fully prepared and all necessary equipment is ready before mixing Parts A & B.
- 2) Mix Part A well, prior to blending.
- 3) Add one can of Part "A" (1 Qt.) to one can of Part "B" (1/2 Pint). This represents a mixing ratio of 4 parts "A" with 1 part "B" by volume.
- 4) Mix A and B together thoroughly, scraping sides and bottom of container.
- 5) Do not mix more material than can be used within 4 hours.
- 6) For best results, wait 10 – 15 minutes after mixing before applying the paint.

GEN-U-LINE Line Paints dry by evaporation and chemical reaction between Parts A and B. It is imperative to use the recommended mixing ratio and to mix well. The Part "B" is engineered to be compatible with the Part "A" of all the **GEN-U-LINE 4000 Series** colors.

Application:

Note: Before proceeding, the user should test the adhesion of the paint in an inconspicuous area to insure applicability.

- 1) **Gen-U-Line 4000 Series Line Paints** can be applied using a fine bristle brush, or with an appropriate roller. We recommend the **Wooster Pro Doo-Z professional roller in a 3/16" nap** for best results. Insure that the roller is compatible with the solvents in the line paints. If the roller is entrapping air bubbles in the paint, pass a fine bristle brush through the line paint immediately after application.
- 2) If thinning is required, use only **2452 Zero-V.O.C. Thinner**.
- 3) We recommend the application of at least two thin coats. After one coat is applied, a second coat should be applied, "wet on wet", after 20 - 30 minutes. For some colors, where more hiding is required a third coat can be applied following the same procedure. If the **GEN-U-LINE** game line paints are allowed to dry longer than 24 hours at normal temperatures, the surface must be lightly abraded with sandpaper before the application of another coat.
- 4) We recommend the applicator use a finishing stroke that is consistently in a forward direction. Too much "back and forth" roller work can lead to an inconsistent finish quality.



- 5) Remove the masking tape as soon as possible after application of the paint and before the paint sets. When removing the tape, pull it up back against the game line to prevent bleeding or tailing.
- 6) Clean equipment immediately after use. Any accidental spillage or traces of the paint must be removed from the floor before the paint cures. Use **2452 Zero-V.O.C. Thinner** or **Acetone**.
- 7) The painted area can be opened to foot traffic after 72 hours. Rolling/static loads such as bleachers or portable equipment should not be allowed until 7 days after application of the **GEN-U-LINE** Game line paints.
- 8) Initial maintenance of the facility can be resumed after 7 days.

NOTE: For painting large areas such as solid keys or borders, brush or roller application is not recommended. The **GEN-U-LINE** paints can be applied by HVLP spray equipment. Reduce the viscosity of the paint, if necessary, with **2452 Zero-V.O.C. Thinner**. Care should be taken to protect adjoining areas from overspray.

Safety Cautions:

Prior to using this product, consult the MSDS for more information. Avoid temperatures above 38°C (100°F) or below 10°C (50°F). Avoid prolonged breathing of vapors and skin contact. Prolonged exposure can cause irritation to eyes, mucous surfaces and respiratory passages. Use in a well ventilated area and do not smoke while applying. Keep away from fire and open flame. Avoid contact with eyes, skin and clothing. Wear gloves and protect face during application. In case of contact with the eyes, flush immediately with plenty of water. Get medical attention promptly. If skin contact occurs, wash with plenty of soap and water. Remove contaminated clothing and wash before reuse. Wash hands thoroughly before eating or smoking, **POISONOUS IF SWALLOWED**. Should **GEN-U-LINE Line Paint** be swallowed accidentally, do not induce vomiting and contact physician immediately.

GEN-U-LINE Line Paint is for industrial or commercial use only. It must be applied by trained personnel only.

Note: **GEN-U-LINE Line Paint** is **FLAMMABLE**. Smoking or the use of electrical equipment that may cause sparks should be prohibited while these products are in use. Solvent soaked rags represent a dangerous fire hazard. They should be discarded in accordance with local or state safety regulations.

Warranty:

PBWW Inc. warrants that this product has been manufactured from the highest quality raw materials, under conditions to meet rigid quality standards established by **PBWW INC.** Therefore the following is made in lieu of all other warranties expressed or implied. Sellers and manufacturers sole obligation shall be to replace such quantity of the product proven to be defective. Neither seller nor manufacturer shall be liable for any loss or damage direct or consequential arising out of the use of or the inability to use this product. Before using, user shall determine the suitability of the product for his intended use. User assumes all risks and liability whatsoever in connection therewith. No person has authority to change these terms and there are no warranties, except as herein stated.

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