

# enCOUNTER™

**enCOUNTER** countertop mix is a special blend of rock, well medium and fine graded sands, cement and proprietary performance enhancing ingredients. **enCOUNTER** can be used for either the cast-in-place method or pre-casting.

ADVANTAGES: enCOUNTER offers significant advantages over other countertop materials: endless color options; minimal shrinkage, easily takes any shape; and can be a structural material capable of long unsupported spans. enCOUNTER readily accepts color hardener, integral color, reactive acid stains and water borne stains. enCOUNTER can cantilever where other natural materials or bagged mixes may need permanent support. The lower water demand of enCOUNTER minimizes shrinkage cracking while providing workability. The lower water content also minimizes curling, a common issue with some mixes.

enCOUNTER is available in 50-pound bags of white or gray mix. Nine liquid integral colors are available with an easy-to-use measuring and dispensing system. enCOUNTER readily accepts any integral color, reactive acid stains and water borne stains.

enCOUNTER's high early strength gains allow polishing sooner than some other mixes. An added benefit of polishing is that it exposes the white limestone rock.

8,870 psi in 28 day with water – no admixtures necessary.

COVERAGE RATES: Coverage rate are approximately per 50-pound bag: 3 sq. ft. at 1.5" thick; 2.3 sq. ft. at 2" thick.

CAUTION: Keep out of reach of children! Use appropriate personal safety protection gear such as particle masks, eye protection and gloves. Avoid direct skin contact and inhaling dust. Do NOT subject enCOUNTER bags to moisture prior to use.

MIXING: Make a sample with enCOUNTER to gain familiarity and suitability for your casting method, colors and sealers. A metal drum mixer is recommended. Please read these instructions carefully!

Add 80oz. of water per bag and enCOLOR to the mix water and then add the bags of enCOUNTER. If you are mixing in 4 bag batches stop the mixer after the third bag has mixed in order to scrape any dry material from the sides and paddles of the mixer. Add the fourth bag and continue mixing. Add one ounce of water per bag until the desired consistency is reached. When the mix tumbles off the paddles of the mixer the slump is just right. Avoid adding more than 88 ounces of total water per bag. Allow a minimum of 3 to 5 minutes mixing time for enCOUNTER to wet out before adding more

water. Record the amount of water added per bag to more efficiently mix the second batch.  
*Note:* enCOUNTER is wetter than it looks and works more easily than it first appears. The suggested amount of water is suitable for hand pressed, precast and cast in place applications. Adding more than the recommended amount of water will encourage shrinkage and curling.

**COLORS:** enCOUNTER comes in gray and white. enCOUNTER takes integral colors, acid stains and water borne stains. Color hardener may also be used however enCOUNTER's low water content will make the application more difficult than with regular concrete.

**REINFORCEMENTS:**

1. Place 4 X 4 X 6 gage welded wire mesh in the center of the countertop section.
2. Use pencil rod or #3 bar ¼" below surface at all reentrant corners and narrow strips, ie...sink and range areas.
3. For extremely long sections or unusual applications consult with an engineer.

**FINISHING TIPS:**

1. Float the enCOUNTER mix to the edges, filling in all voids.
2. Screed and float the surface. Consolidate the edges with a palm sander or pencil vibrator. Re-float the surface. Allow the concrete to take an initial set before steel troweling. Avoid burning the surface with a magnesium float or steel trowel. Apply a micro-topping for additional smoothness after final troweling or add texture by "sweat" troweling.

**CURING:**

1. An effective curing method is to cover the surface with 1 mil poly after final troweling leaving at least overnight.
2. For longer cast in place projects keep the surface wet and covered for as long as practical. Allow sufficient dry time before sealing.

*NOTE:* These recommendations take on added significance when using enCOUNTER outside. Refer to ACI 305 Hot Weather Concrete since high temperatures, sun and wind cause rapid moisture loss which may result in surface checking and possible shrink cracking.

**POLISHING:** Allow the concrete to cure for a minimum of 4 days at normal temperatures before polishing. Consider using a liquid densifier to strengthen concrete. Start polishing with a diamond cup wheel or something equivalent, this will help with the leveling and breaking the surface without using up your other pads. Either use wet or dry pads. If using wet pads, start at 40 grit and end with 100 grit. If using dry pads, start with 100 going to 200 grit, 400 grit, 800 grit, and finishing with 1500 grit. Use a micro-topping to fill voids near the end of the polishing process.

**SEALING:**

1. Seal using two coats of penetrating sealer and two coats of food-grade concrete beeswax. The beeswax will penetrate the surface and enhance the color. Apply beeswax regularly for maintenance.
2. A minimal maintenance option is using 100% epoxy. Follow the instructions carefully.
3. Encourage the owner to use hot pads and cutting boards to avoid damaging the wax or sealer.



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# enMAGIC

**DESCRIPTION:** enMAGIC is trowel-grade polymer modified cementitious micro topping used for smoothing concrete countertops and creating interesting effects. enMAGIC may be integrally colored, stained, sanded, sandblasted, scored, stenciled and sealed like plain concrete. enMAGIC is packaged in a one gallon buckets in white and gray.

**SURFACE PREPARATION:** Insure that the surface is clean, dry and free of grease, oil, and sealers prior to applying enMAGIC to a hardened concrete countertop surface.

**MIXING:** Mix enMAGIC with 18 oz to 24 oz of clean water depending upon the desired consistency. Mix by hand or with small drill in a one gallon bucket.

**APPLICATION:** Work with application techniques to gain confidence and familiarity. Dampen the substrate with water, pour the enMAGIC in a long thin line. Spread with a margin trowel, pool trowel, Magic Trowel or squeegee. Apply as thin as possible.

**COLORING:** Create samples to determine the rate of enCOLOR addition or to determine acid stain dilution rates.

**SEALING:** enMAGIC may be treated with any concrete sealer or wax, however enPOXY provides a superior stain and abrasion resistance.

**LIMITATIONS:** enMAGIC is a thin build product, avoid thickness of greater than 1/8". Do heavy patching and filling of deep holes prior to applying enMAGIC. CAUTION: Contact with water may cause uncured enMAGIC to delaminate.

## TECHNICAL DATA:

Coverage.....	200 – 400 sq. ft/gallon
Drying time (re-coat).....	4 hours at 72°F
Drying time (staining).....	Overnight
Clean up.....	Warm, soapy water before material hardens
Nonvolatile content.....	47% (+/-)0.5
pH.....	0.5 – 11.5
Bulk density.....	8.2 lbs/gal
Application temperature.....	Above 45° F

**CAUTION:** Keep out of reach of children!



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# enCOLOR

**DESCRIPTION:** enCOLOR colors are pre-dispersed iron oxide pigments solids in an aqueous base liquid. enCOLOR provides an easy integral color solution for pre-cast or cast in place applications.

**DIRECTIONS:** Choose the appropriate color from the enCOLOR chart. Stir the contents of the enCOLOR bucket thoroughly to insure complete blending of the pigments. After determining the amount of pigment for each bag of enCOUNTER mix, draw the proper amount into the syringe and squirt into the measured amount of water. The color chart is a guideline which may be adjusted up or down to adjust the shade of color.

Color consistency for multiple bag projects is best achieved with mechanical mixing of four bags of enCOUNTER in a barrel mixer. Combine enough color with the proper amount of water for all four bags in the mixer and then slowly add the four bags of mix. Conduct tests whenever possible to application techniques prior to application on the larger project.

**LIMITATIONS:** enCOLOR should be kept from freezing even though the actual pigment will remain stable in freeze-thaw conditions. However, every freeze-thaw cycle does cause some separation, which will require additional remixing before the enCOLOR can be used.

#### **TECHNICAL DATA:**

ASTM C33-97 – Standard Specification for Concrete Aggregates

ASTM C94-97 – Standard Specification for Ready-Mixed Concrete

ASTM C150-97a – Standard Specification for Portland Cement

ASTM C979-82 (R1993) – Standard Specification for Pigments for Integrally Colored Concrete

*Physical/Chemical Properties:* All enCOLOR colors comply with ASTM C979 for integrally colored concrete. enCOLOR colors are water wettable, limeproof, lightfast, non-bleeding, natural and synthetic iron oxides. Depending upon the enCOLOR color, fineness ranges from 95-99% minus 325 mesh particle size.

#### **General Formula:**

Yellow .....	Fe2O3 - H2O
Black.....	FeO - Fe2O3
Red.....	Fe2O3
Particle Shape.....	Color dependent
Acicular, Cubical, or Spherical Particle Size.....	Generally less than 44 microns
Density .....	15.9 – 18.8 lbs per gallon
Viscosity.....	5 – 6 Zahn seconds
Orifice .....	.005
pH .....	6.5 – 9
Specific gravity.....	1.9 – 2.0
Particle size.....	Generally less than 44 microns

**CAUTION:** Keep out reach of children!



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# enFORM

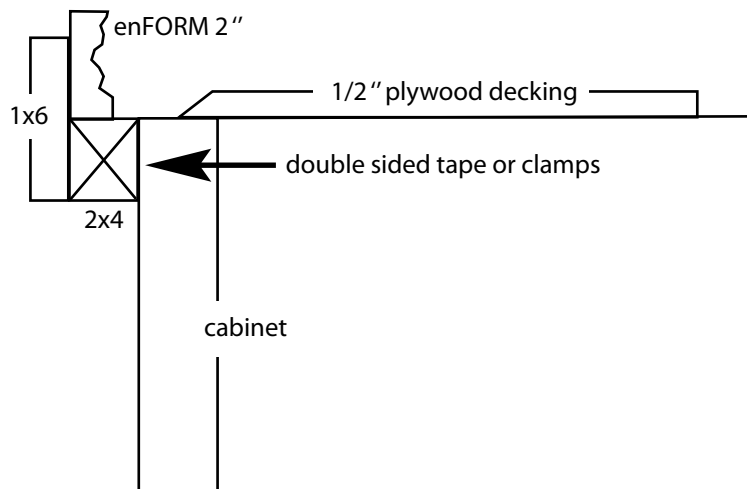
Reusable counter top edge liner comes in 2 inches by 8 feet

Three unique edges:

- Coral with Seashells
- Split Face Granite
- Chiseled Sandstone

## DIRECTIONS FOR SETTING UP enFORM:

- 2x4 can be attached with double stick tape, clamps or screws.
- enFORMS can be attached with finish nails to keep from floating.
- Decking should be cut at a 45° angle to strengthen edge.
- Made of rubber so it easily wraps corners without mitering.
- enFORM can be free formed on plywood or melamine to make virtually any shape table or countertop.



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# enFLOW

## High range water reducer for concrete countertops and sinks

**DESCRIPTIONS:** enFLOW is a ready to use high range water reducing admixture specifically developed for enCOUNTER, the professional concrete countertop system, for use in concrete countertops, concrete sinks and thin wall panels. enFLOW delivers flowability and high strengths without the retarding and foaming issues associated with many slump modifiers. enFLOW has been formulated to enhance the already high performance characteristics of enCOUNTER, the professional concrete countertop mix, by increasing flow characteristics for use with double sided concrete sink molds such as the enSINK reusable sink molds and one time use enSINK molds and thin wall panels.

enFLOW does not contain any added chlorides or chemicals known to promote corrosion of steel or known to contribute to the growth of bacteria in kitchen or bathroom environments.

**PRIMARY APPLICATIONS:** Double molded concrete sinks, high performance concrete, self consolidating concrete, precast/prestressed concrete, thin wall panels, low water/cement ratio concrete, and high early strength applications.

**FEATURED BENEFITS:** Improved appearance with SCC mixes such as enCOUNTER or even lesser performing concrete mixes, higher strengths at all ages, maximized efficiency for slump or flow increase, and efficient use of labor, materials and equipment.

**DIRECTIONS FOR USE:** Recommended starting dosage of water and enFLOW is 62 oz of water and 1 ounce of enFLOW. Start with this ratio somewhere from a range 62 – 70 oz of water and .5 to 2 oz of enFLOW per bag. enFLOW is especially helpful when casting enSINKS or wall panels as the enhance flowability results in smooth castings and strength is increased for thin wall pieces. (See Tech Data Sheet for Thin Wall Technology) Run trial batches to determine the appropriate ratios of water and enFLOW for your particular casting application.

Note: (Non-Chloride Accelerator) may be used with enFLOW for faster demolding of the enSINK molds. Please chart all pertinent data: time; temperature; all admixtures to establish protocol.

**LIMITATION:** use of enFLOW will create difficulty in hand finishing exposed surface.

**SHELF LIFE:** One year in the original unopened container.

**CAUTION:** Care should be taken to maintain enFLOW above freezing. If frozen, material may not reconstitute. Please see an enCOUNTER sales professional before using. In all cases, consult the Material Safety Data Sheet before use.

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# enFORCE

Heavy duty fiber that will not change the surface appearance

DESCRIPTIONS: enFORCE is especially formulated to be used with enCOUNTER, the professional concrete countertop system. When enFORCE is used in conjunction with enFLOW the enCOUNTER mix conveniently conforms to any casting surface leaving an extremely smooth and abrasion resistant surface. enFORCE is an extra heavy-duty fiber offering maximum long term durability with structural enhancements yet will not change the surface appearance. enFORCE is non-corrosive, non-magnetic, non-metallic and 100% alkali proof.

enFORCE is packaged in water disposable bags conveniently sized to dose 4 bags of enCOUNTER.

DIRECTIONS FOR USE: Introduce enFORCE into a barrel style mixer either by handfuls or by the complete bag at any time during the mixing process. Allow sufficient time for the fibers to disperse. If bundles of enFORCE do not disperse it may become necessary to shut the mixer down and manually breakup the balls of enFORCE and continue mixing.

LIMITATION: enFORCE is designed to reinforce molded concrete or upside down casting. The texture of the fiber will challenge even the most skilled finisher in a cast-up application. Contact enCOUNTER (866 906 2006) for additional reinforcement methods and products which may be more suitable for cast-up applications

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# enCOUNTER

THIN WALL TECHNOLOGY for precasting with enCOUNTER.

**DESCRIPTIONS:** The enCOUNTER countertop mix with enFLOW (superplasticizer) and enFORCE (structural fiber) may be used for precast Thin Wall applications for sinks, wall panels, tiles, fireplace surrounds, countertops and tables, backsplashes and baseboards in thickness of  $\frac{3}{8}$  inch and greater.

**INGREDIENTS:** Suggested formula for one bag of enCOUNTER: 1 ounce of enFLOW; 64 ounce water; 2 ounce of enFORCE.

**SEQUENCE:** Add water and enFLOW to the mixer drum and add the bags of enCOUNTER. If small balls of enCOUNTER are visible after 7 minutes of mixing, the addition of up to 5 ounce of additional water per bag and/or the addition of  $\frac{1}{2}$  ounce of enFLOW per bag of enCOUNTER may be added to fluidize the mix, especially in low humidity environments. **NOTE:** The increased water and enFLOW may cause excessive bleed water and possible segregation, but will not cause significant strength loss. Allow a minimum of 10 minutes mixing time to allow enFLOW to fully react and for the enFORCE fibers to fully disperse throughout the mix. This same procedure is used with enVISIONS, the reflective casting mat. enFORCE is suggested for larger panels (larger than 30" X 30". enFORCE will not show in the demolded face, only on the upper side when casting.

**NOTE:** The mix may appear dry and not fluid while mixing. Test by stopping the mixer and reach for a handful with a gloved hand. The mix should drop off the paddles and "ooze" in your hand. Be careful not to add any more water and enFLOW than necessary to achieve your desired results. It is recommended to mix one bag trial batches, to determine what water/enFLOW ratio best works in your application and environment.

**CAUTION:** The enCOUNTER mix (when so modified) will take on a false set and solidify when left standing in the mixer after only a few minutes – be careful when restarting the mixer. The batch may stick to the drum as it turns possibly creating an unsafe condition.

**PLACING:** Pour the mix from the mixer into buckets and then pour directly into the mold or onto the formed surface. A wheel barrel and a shovel won't do it!

**TO ACCELERATE:** The use of a non-chloride accelerator and/or hot water will hasten early strengths. 6 oz of a liquid NCA or two 5.6 oz packs of Fritz-Pak NCA will provide the maximum acceleration rate.

**NOTE:** Thin Wall Technology is an upside down precast process, not a "top up" method of casting. enFLOW and enFORCE make normal finishing procedures difficult.

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# enSPARTIC

**ADVANTAGES:** Self-priming, excellent penetrating and bond strength, excellent abrasion, impact, wear resistance, UV-resistant, with optical clarity. Low-temperature cure (-30°F/-34°C) (Note: Reference is related to surface temperature, not ambient temperature.) Recoat time is 1 hour in normal temperature and humidity levels. Meets FDA/CFSAN, U.S. Food Code, Physical Facilities criteria as outlined in 6.101.11 Surface Characteristics. Not tested for 21 CFR food contact. Excellent stain resistance. Does not support bacterial growth. Random/incidental heat contact: tolerant to 300°F. Three to four times the abrasion resistance rating of epoxy.

**PRODUCT USES:** Residential, commercial, institutional, and industrial work surfaces where chemical and abrasion resistance and fast “return to use” factors are critical. UV stability allows outside use for applications as varied as outdoor kitchens and BBQ areas, conference tables, kitchen countertops, and commercial food prep tables.

## **PRODUCT DATA:**

*Type of Material:* Polymer-Extended Polyaspartic Aliphatic Polyurea

*VOC Content:* 2.8 lb/gal (340 g/l) to 0 (zero) VOC Content

*Recommended Dry Film Thickness:* 2 to 6 mils per coat

*Clear:* High gloss, Satin or Matte

*Pigmented:* Standard factory or custom colors

*Shelf Life:* 12 months unopened. Store at 40°F to 100°F in a covered area (out of the sun)

*Pot Life @ 70°F (20°C) and 50% Relative Humidity:* 25 to 30 minutes

*Minimum Recoat @ 70°F (20°C) and 50% Relative Humidity:* 1 hour, minimum

*Maximum Recoat @ 70°F (20°C) and 50% Relative Humidity:* 48 hours (contact manufacturer)

*Mixing Ratio @ 70°F (20°C) and 50% Relative Humidity:* 1.0 part A; 1.0 part B

## **PROPERTY PROFILE:**

*Tensile Strength:* ASTM D 638: 4,500 to 5,000 psi

*Falling Sand Abrasion Resistance ASTM D 968:*

Clear .....30 liters sand/1 dry mil

Pigmented.....38 liters sand/1 dry mil

*Mandrel Bend ASTM D 522:* Passes, no cracking,  
1/8 in. mandrel bend

*Theoretical Coverage @ 67% Volume Solids:* 1 mil

DFT ..... 1,075 ft • 2 mils

DFT .....538 ft • 3 mils

DFT .....358 ft • 4 mils

DFT .....268 ft • 5 mils

DFT .....215 ft • 6 mils

DFT ..... 179 ft •

**MIXING:** Mix "Part A" and "Part B" in equal parts (1:1) using a clean, dry, working pot. Stir 30 revolutions avoiding over-mixing or creating a vortex that would introduce moisture. Satin and Matte formulations require extended mixing times to suspend the flattening agents. Do not mix at or below the dew point, which will shorten the pot life. No induction time is required prior to use. If micro-media agents are to be incorporated, they are to be added after thorough mixing of "A" and "B."

**POTLIFE:** An approximate 25 to 30 minutes workable potlife exists at a temperature range of 70°F to 80°F (and 50% relative humidity). At higher temperatures and humidity the potlife can be shorter.

**APPLICATION INSTRUCTIONS:** Apply only to a cured concrete surface. Roller or mechanical spraying applications are recommended although brush may also be used. Use only tight napped rollers. Do not use a pump-up sprayer, spray bottle, or conventional air atomizing methods which may cause bubbles, blisters, or pinholes. Apply in thin coats approximately 3-6 mils. Re-coat when dry. Two to three coats are recommended.

**CLEANUP:** Use Xylol or MEK. DO NOT USE ALCOHOLS.

**STORAGE AND SHELF LIFE:** The product must be stored in tightly sealed containers in a climate-controlled, dry location at normal room temperature. Containers which have been opened for use must be re-sealed immediately in a new container, preferably filled to the top (the more airspace in the container the greater the potential for reaction with moist air, decreasing the shelf life of the product).

**SAFETY PRECAUTIONS:** Polymer-extended polyaspartic polyurea products contain chemical ingredients that are considered hazardous. Read the container label warning and Material Safety Data Sheet for important health and safety information prior to use for details on the safe handling and use of these products. This is especially important when spraying.

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# enPOXY

**DESCRIPTION:** enPOXY is a water clear two part 100% epoxy system especially well suited for concrete countertops and vertical applications. enPOXY meets FDA standards, waterproofing the surface while not supporting bacterial growth.

**SURFACE PREPARATION:** Allow at least two days dry time at 70 degree temperatures before applying enPOXY to a clean and dry surface free of any contaminants. Sealing uncured enCOUNTER may result in blushing. Prime the surface with a sealer of choice to block off pin holes that would crete bubbles in the epoxy if left untreated.

**DIRECTIONS:** Mix enPOXY parts A and B. Avoid whipping air into the enPOXY by slowly by hand or low rpm mixer for two minutes. Pour mixed parts A & B into a separate bucket and continue mixing for 5 minutes. The pot life after mixing is approximately 15 minutes. Working time is extended to 30 - 45 minutes by pouring enPOXY onto the countertop immediately after mixing. enPOXY can be applied with brush, loop roller or squeegee. Use a spike roller and heat gun to pop air bubbles. Best results are achieved with a 60 degree and rising surface temperature and ambient and enPOXY temperatures at 70 degrees - not exceeding 90. Ideal temperatures for all three is 77 degrees. enPOXY can take light use after 12 hours in normal temperatures and full use after 3 days. If a second coat is needed, scuff the hardened surface with sandpaper, clean and reapply. enPOXY may be diluted up to 10% with xylene, MEK or acetone for the second coat only.

Conduct tests on smaller pieces to gain familiarity before applying to the larger project.

enPOXY is NOT recommended for outdoor use.

## TECHNICAL DATA:

Solids.....	15-18% by weight and 13-16% by volume
Coverage.....	200 sq. ft. @ 8 mil dry film (minimum recommended build)
	160 sq. ft @ 15 mil dry film
	45 sq. ft for countertops per gallon (33 sf/.75 gal)
Drying time (tack-free) .....	8 hours at 75°F
Application temperature .....	Above 50°F
Clean up .....	Warm, soapy water

## PERFORMANCE PROPERTIES:

Tensile Strength, psi (ASTM D-638).....	6230
Ultimate Elongation, % (ASTM D-638).....	11
Compressive Yield Strength, psi (ASTM D-695).....	9850
Ultimate Compressive Strength, psi (ASTM D-695) .....	19501
Ultimate Flexural Strength, psi (ASTM D-790) .....	9680
Hardness, Shore D (ASTM D-2240).....	83

Bond Strength to Concrete (ACI 503.4-2.3.2) .....concrete fails before loss of bond

CHEMICAL AND STAIN RESISTANCE (ASTM D-1308 24 Hour Immersion)

Vegetable Oil .....no effect  
Mustard.....no effect  
Urine .....no effect  
Gasoline.....no effect  
Motor Oil .....no effect  
Transmission Fluid .....no effect  
Brake Fluid .....slight softening, film recovers  
Mineral Spirits .....no effect  
10% Sulphuric Acid .....no effect  
10% Hydrochloric Acid .....no effect  
10% Acetic Acid .....no effect  
Xylene .....slight softening, film recovers  
MEK .....film destroyed

CAUTION: Protect from freezing! Keep out of reach of children!

January 11, 2011