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STAR-SEAL OF FLORIDA INC

Sealcoating & Striping Guidelines, Mix Designs & Coverage Rates

STAR-SEAL SUPREME
PREMIUM REFINED TAR SEALER



BEFORE STAR-SEAL

AFTER STAR-SEAL

STAR-SEAL
REFINED TAR SEALER

**When Quality Counts - Use America's Most
Trusted Sealcoatings and Pavement
Protection Products.**

1-800-432-8402



STAR-SEAL

OF FLORIDA INC

**Manufacturing South Florida's Most Trusted Sealcoatings
and Providing Pavement Protection Products, Striping
Paints, Additives, Primers and Equipment
for More Than 30 Years!**

We Manufacture only the Highest Quality Asphalt Sealer

STAR-SEAL®
REFINED TAR SEALER

AND

STAR-SEAL SUPREME®
PREMIUM REFINED TAR SEALER

Our original Commitment of "Nothing but The Best"
Remains as Strong as Ever!

We service and support the equipment that we sell and understand that YOU, our customer, must get the highest value for your dollar. We, the manufacturer and supplier, stand ready to prove our high quality products will give you the value you deserve!

With our long-term raw material supplier relationships and assistance from only the best equipment manufacturers and parts vendors, we will always be your high value, low cost provider -

Never at the Expense of Quality!

**We Are Forever Grateful That Our Customers
Appreciate Our Endeavor. Thank-You For Your Time,
Your Trust & Your Considerations!!**

Proud Members Of:



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Please visit our web site:

www.starsealfl.com

Please Note: These guidelines are being provided to assist in Your General Knowledge and Understanding of Best Application and Maintenance Practices in the Sealcoating and Maintenance of Asphalt Pavements. The information contained herein is offered in Good Faith, but Without Guarantee, as Conditions and Methods of Application are beyond any of our control. You Should ALWAYS Consult and Adhere to Your Local /Municipal/State Approved Engineering Plans and Codes!

STAR-SEAL®

REFINED TAR SEALER

Why Sealcoating Asphalt is Important!

Sealcoating is Important for several reasons, but the most Important is that it Greatly Extends the Life of YOUR Asphalt Pavement!



Asphalt begins to deteriorate soon after pavement installation. Oxidation and decomposition under the sun's rays is a pavement's worst enemy. In addition; oils, salts and chemicals will accelerate the deterioration of the pavement surface.



Pavement will begin to lose its flexibility due to the breakdown of the asphalt binders. Surface cracks begin to appear, increasing in size and number, and deterioration begins to work its way down into the pavement foundation.



Water can now more easily penetrate beyond the hairline cracks that have been forming. Seasonal freeze thaw cycles expand and contract water trapped in the pavement. This expanding and contracting begins to tear apart the pavement itself.



The surface now becomes rough and brittle, water continues to work into the foundation. Now the sub-base structure that the asphalt layer is resting on is being damaged. The process of deterioration will begin to speed up at this stage.



The asphalt surface is now too far gone to repair. Cracks have led to broken bits and chunks as the surface layers come completely apart. Large potholes form that can damage vehicles and cause safety issues on your property.

A Properly Sealcoated Asphalt Pavement Can Extend The Life Of That Pavement By As Much As 300%. The Cost Of Sealcoating Is Truly A Minor Expense Compared To The Cost Of Pavement Replacement.

Sealcoating Acts As A Shield, Protecting Against Weathering Effects And Oxidation Caused By The Sun's UV Rays. Sealcoating Also Acts As A Barrier And Protects Against Gasoline, Oil Drippings, Grease And De-Icing Salts.

Life Cycle Cost Analysis Studies Have Established That Unprotected Pavements Will Likely Cost A Property Owner As Much As Five Times More Compared To A Pavement That Has Been Protected With A Regular Maintenance Program.

Properly Maintained Asphalt Surfaces Provide The Property Owner With The Best Visual First Impression, Lower Costs For Cleaning, Higher Traffic Marking Visibility, And Ultimately A Safer Overall Environment On Your Property!

Why We Do What We Do

The Economics of Sealcoating Asphalt



Protection

Sealcoatings like STAR-SEAL are a heavy-duty refined tar sealers that are specifically designed to protect bituminous pavements. STAR-SEAL is composed of high temperature refined tar pitch, select mineral fibers and surfactants, STAR-SEAL forms a tough, durable and flexible coating that protects asphalt pavements from the damaging elements of weather, water, salts, gasoline and other petro-chemicals.

Appearance

The uniform color and smooth consistent surface improves the appearance of new and old asphalt pavements. Unprotected asphalt surfaces gradually lose their rich black color due to oxidation and weathering. Sealcoatings preserve the smoothness and resilience of asphalt surfaces and help to hide rough spots, small cracks, patches and surface depressions. Pavements coated with a high quality sealer look cleaner because rainfall washes dirt and debris easily from the smooth, non-porous surface. Traffic lines will become more visible making your parking lot safer for drivers and pedestrians.



Economy

Sealcoatings substantially reduce maintenance costs while at the same time extend the life of asphalt pavements by as much as 300%. The cost of STAR-SEAL is truly a minor expense when compared to the cost of pavement replacement.

Quality Assurance

STAR, Inc. conducts ongoing field and laboratory testing to ensure STAR-SEAL is the very best product available to beautify and protect your asphalt pavement. Our superior manufacturing standards ensure you are getting the very best in pavement protection.



STAR-SEAL SUPREME®

PREMIUM REFINED TAR SEALER

**YOUR FIRST CHOICE IN PAVEMENT SEALER
WHEN QUALITY AND PERFORMANCE
IS WHAT YOU DEMAND!**



Outstanding Performance & Appearance Year After Year.

- **Star-Seal Supreme®** is a Premium Grade Asphalt Pavement Sealer for those discriminating jobs that demand your best quality.
- **Star-Seal Supreme®** utilizes a proprietary technology to achieve toughness & flexibility. Toughness and flexibility will reduce wear from traffic & last longer on the pavement surface than any other sealer on the market today.
- **Star-Seal Supreme®** achieves unprecedented water resistance by utilizing a chemistry of specialized clays and surfactant chemicals that repel water.
- **Star-Seal Supreme®** has engineered performance that Hot-Blends proprietary polymers during manufacturing and is unmatched by other “premium”, competitive sealers, which are generally made by post-adding a latex rubber to the regular sealer.
- **Star-Seal Supreme®** is manufactured as Ready-To-Use. No additional additives or water are necessary, however, sand should be added to your desired specifications.

Star-Seal® and **Star-Seal Supreme®** exceed any Federal Specification by delivering 50% or higher solids content. The solids content directly affects the performance results of protective coatings on asphalt pavements because of the resulting film thickness.

| PROPERTIES & CONSTANTS | TEST METHOD | SPECIFIED LIMITS | STAR-SEAL® | STAR-SEAL SUPREME® | STATUS |
|--|------------------|---|----------------|--------------------|--------|
| Solids, % by weight | ASTM D2939-08 | Min. 47-53% | 49-50% (+/-) 1 | 50% Min. | Passes |
| Ash Content (%) | ASTM D2939-10 | 30-40% | 37-38% (+/-) 1 | 37-38% (+/-) 1 | Passes |
| Density @ 25° C | ASTM D2939-07 | Min. 1.15 | 1.17 | 1.17 | Passes |
| Solubility of Non-Volatiles in CS ₂ (%) | ASTM D2939-24 | Min. 20% | 30-32% | 29-30% | Passes |
| Drying Time, Hrs. | ASTM D2939-13 | Max. 8 Hrs. | 3-4 Hrs. | Approx. 6 Hrs. | Passes |
| Adhesion & Resistance to Kerosene/Water | ASTM D2939-15/25 | No blistering, loss of adhesion/re-emulsification | NONE | NONE | Passes |

STAR-SEAL®

REFINED TAR SEALER

MIX DESIGNS

Star-Seal®

Requires Water, & Sand. Additives are Optional.

| STAR-SEAL® | Gallons of Water | Macro-Flex® | Pounds of Sand | Total Mix in Gal. | 2-Coat Coverage |
|------------|------------------|-------------|----------------|-------------------|-----------------|
| 500 | 200 | 10 | 1500 | 779 | 25,000 |
| 450 | 180 | 9 | 1350 | 701 | 22,500 |
| 400 | 160 | 8 | 1200 | 623 | 20,000 |
| 350 | 140 | 7 | 1050 | 546 | 17,500 |
| 300 | 120 | 6 | 900 | 468 | 15,000 |
| 250 | 100 | 5 | 750 | 390 | 12,500 |
| 200 | 80 | 4 | 600 | 312 | 10,000 |
| 150 | 60 | 3 | 450 | 234 | 7,500 |
| 100 | 40 | 2 | 300 | 156 | 5,000 |
| 50 | 20 | 1 | 150 | 78 | 2,500 |
| 10 | 4 | 0.2 | 30 | 16 | 500 |

Star-Seal Supreme®

Requires Sand Only. Additives and Water are Not Necessary!

| STAR-SEAL SUPREME® | Gallons of Water | Pounds of Sand | Total Mix in Gals. | 2-Coat Coverage |
|--------------------|------------------|----------------|--------------------|-----------------|
| 600 | 0 | 1500 | 669 | 25,000 |
| 550 | 0 | 1375 | 614 | 22,917 |
| 500 | 0 | 1250 | 558 | 20,833 |
| 450 | 0 | 1125 | 502 | 18,750 |
| 400 | 0 | 1000 | 446 | 16,667 |
| 350 | 0 | 875 | 390 | 14,583 |
| 300 | 0 | 750 | 335 | 12,500 |
| 250 | 0 | 625 | 279 | 10,417 |
| 200 | 0 | 500 | 223 | 8,333 |
| 150 | 0 | 375 | 167 | 6,250 |
| 100 | 0 | 250 | 112 | 4,167 |
| 50 | 0 | 125 | 56 | 2,083 |
| 10 | 0 | 25 | 11 | 417 |

The following Charts are Suggested Guidelines for Mix Design & Coverage Rates. Please Note - Coverage Rates Vary based on Condition of Asphalt. The More Oxidized (Bleach-Out White), patching, cracking, potholes, - the more material will be needed. Coverage Rate is based on Square Footage.

Water, Sand, & Additives

What Do They Do & Why Do I Need Them?

Water – Most basic refined-tar sealers need to be cut with water.

- **In Application:** Water imparts fluidity to the sealer so the sealer can be uniformly applied.
- **In the Drying & Curing Process:** After application the sealer dries & cures by water evaporation.
- **Water Should Not Be Used From Just Any Source:**
 - 1) *Use Only Clean Water* - Meaning free of oils, salts, metals, rust & iron contaminants, - Basically - Drinkable!
 - 2) *Do Not Use Well Water or Canal Water* – **EVER!**
- **The Addition and Quantity of Water Needed:** Most manufacturers require a 20 – 40% water cut. That means 100 gal. of sealer + 40 gal. of water.
NOT 60 Gallons Sealer/40 Gallons Water.

Sand - Is added to the sealer for the following benefits:

- **Appearance:** Provides a uniform texture, hides minor surface defects, fills hairline cracks, improves traction & skid resistance.
- **Too little sand or no sand:** You will not have the benefits.
- **Too much sand:** Sealer becomes brittle.
- **Do not use Beach Sand:** because of the very high salt content, it will make the sealer film water sensitive, which will lead to premature wear & tracking.
- **Do not use Recycled or Spent Foundry Sand:** from steel sand blasting. It has lots of irons & metals that will cause brown rust streaking of the sealer.

Additives – Viscosity Thickeners, Drying Agents, Performance Boosters.

- **Macro-Flex:** Builds viscosity to suspend sand in the sealer mix design. Latex polymers improve chemical resistance & help create a more uniform charcoal black appearance.
- **Macro-Fast:** Speeds up the drying of sealcoatings without increasing their viscosity. Handy to have on finishing coats where drying faster is key.

STAR® manufactures some of the Best Performing Sealer Additives on the market today. Ask us about any of these industry leading, performance boosting products and how they can help you be the BEST Contractor you can be!



Maintenance Do's and Don'ts

Preserving the Integrity of Sealcoatings

Frequency of Sealcoating:

Do have the property sealcoated at regular intervals. Sealcoatings should last 2-3 years on pavements with average traffic frequency. The higher traffic lanes may show some wearing off from the top of the aggregate. It is a common observation, however with closer inspection you will find the sealer down in the profile intact and delivering the required protection from UV rays and water penetration.

Don't have the property sealcoated every year and with 2 coats. Too much of a good thing can be bad. Sealcoating is likely to build up cured films and produce unsightly surface checking, similar to the appearance of "potato chips", over the years. You will be better served using a high quality sealer, the better sealers last longer and will help you avoid more regular applications and potential sealer build-up.

Sprinkler System

Make sure that any sprinklers are angled so they do not drench the sealcoated surface. Not that the sealcoating is going to be damaged by water but the water run-off leaves unsightly streaks on the beautiful sealcoated surface. The streaking is caused by the deposition of iron and insoluble salts (calcium and magnesium, both components in water that cause hardness) after the evaporation of hard water.

Fertilizers and chemicals:

Lawn fertilizers deposited on the sealed surface as a result of over-broadcasting should be collected and either disposed of properly or spread back on the grass. Fertilizers are chemicals that may produce blotchiness in the areas where they stay in contact with the sealcoating. Please remember that although sealcoatings have good resistance to a number of chemicals, the surface color may be affected if it is left in contact with a strong chemical for a length of time.

Existing Oil Spots and Oil Drippings:

It is a common practice to prime oil spots with a special asphalt priming product called (S.O.S.) STAR Oil Spot Primer prior to applying sealcoating. Oil Spot Primers are quite effective at sealing oil spots contamination, and will keep them from coming up through the cured film of a finished sealcoating job.

If left untreated the oil will penetrate into and attack (soften & dissolve) the asphalt underneath. If nothing is done, these spots will still be visible through the sealcoated surface and it may be impossible to correct without actually digging out the damaged asphalt and then patching with fresh asphalt. It is a good maintenance practice to remove the oil spots as soon they are discovered using detergent and a good scrubbing.

Cleaning & Preparing Asphalt Pavements Prior to Sealcoating

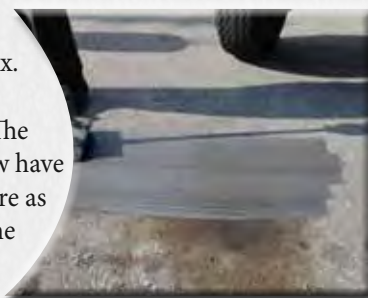
For New Installations; The asphalt must first be cured. A process that takes a minimum of 30 days. To test if the asphalt is sufficiently cured, pour some water on the asphalt and if the water forms beads instead of a continuous film, then the pavement has not cured sufficiently and Sealcoating the asphalt should be held off until the asphalt has properly cured and the oils have burned off.



1st Cleaning - All dirt must be removed from the asphalt pavement. Embedded dirt must be removed by brushing, and/or mechanical blowing. Maintenance should be performed on any pot holes; Clean-out the pot hole of any loose dirt and debris, then tack coat the sides and base of the pot hole immediately apply asphalt patch and compact.



2nd Priming - Prime all oil spots. Because sealcoating is a water-based product it will not bond well to the asphalt surface that is contaminated with oil. Oil and water DO NOT mix. STAR Oil Spot Primer (S.O.S) simply grabs the oil spots and locks it in a tight film onto the asphalt. The sealcoating applied over the primed areas, will now have a firm bond to the asphalt. If the oil spot is so severe as to cause permanent deterioration of the asphalt, the area should be saw cut and removed to its original depth, the sides and surface of the hole tack coated and filled with an asphalt patch.



We Carry The Tools And Materials you Need!
Just Ask one of our professionals and we will gladly demonstrate any of the materials and equipment we sell.



Application of Sealcoat

Once Your Job-Site has been Secured, Cleaned, & Oil-Spot Primed...



First Start Off With Cutting In; With your sealcoat mix, brush on the edges of the pavement (6-12") and in between the curbs and carstops. Place a steady stream of the sealer material down, and apply using a brush or squeegee. Always maintain the same stroke for **Both Coats**. If your 1st coat goes from North to South, maintain that direction for the 2nd as well. By doing this, it avoids a checker boarding effect, which is not a goal! Also, you should avoid placing material on asphalt and just "sloshing it around" you need to apply it evenly and consistently!



Mixing The Sealer Properly; Water, Sand, and Additive in a Sealcoat Rig, The sequence and rate of entry are as follows:

1. Add **Star-Seal®** Concentrate
2. Add in Water - Allow to mix 5 to 10 min.
3. Additive - Add slowly, taking about 1 min. per 5 gal. pail and agitate slowly so as not to beat in extra air to the mix.
4. Sand - Add slowly (100 lbs. per min.)



Allow your sealer to mix thoroughly - After all the ingredients have been added, Agitate for 5 to 10 minutes before application.

Plan On Applying Two Coats of Sealer; This is necessary to maintain the sealers' protective quality as well as its' longevity. Understanding that sealer applied in 2 thin coats dries and cures much better than 1 thick coat. Sealers are water-based coatings, which cure through the process of water release (evaporation). A thin coat will release water faster than a thick coat. If applied in one thick coat, sealer will have a tendency to hold water and will likely cause tracking before it properly cures.

MOST IMPORTANT TO THE DURABILITY OF THE COATING IS THE DRYING TIME BETWEEN COATINGS AND ALLOWING PROPER CURE TIME BEFORE TRAFFIC IS ALLOWED ON THE SURFACE!

Supplies for Sealcoating

Parking Lot Supplies, Sealcoating Equipment, Replacement Parts & Service

Make Sure You Have The Right Supplies For A Sealcoating Job-Site:

- 1) **For Personal Safety** – Long sleeve shirts and pants, SPF 30 – sport/sweat proof sun screen to protect skin, gloves, spray/sock or face mask, protective spray suits, Plenty of drinking water, sports drink, and don't forget hand cleaner.
- 2) **Securing Job-Site** – Traffic cones (clean and highly visible), string and ribbon, make sure traffic controls are clearly visible and your team is safe.
- 3) **Sealcoating Tools** – Cut-in brushes, prostran brushes, squeegees, push booms, blowers, masking tape, Solvall, rags, paper towels and a 5 gallon pail of water.
- 4) **For Spray Rigs** – Spare tips, ball valves, oil and filter baskets.

In-Stock; Supplies You Need to Finish The Job Right!
Star-Seal of Florida, Inc. carries a wide variety of traffic marking paints, stencils, parking lot signs and posts.



Highest Quality Equipment Gets The Job Done - Every Time!

We Sell, Service and Provide Parts on All the Equipment We Sell!!!

When you come to Star-Seal of Florida, Inc. You are in the Best of Company!



**BILLY
GOAT**



BOMAG



GRACO



NORTON

One Stop Shopping Means You Get Back On-Site Faster!

We have the professional tools you need - when you need them!

Striping, Signs and Pavement Markings

When Striping and applying traffic control markings immediately after sealcoating, it is important to wait a sufficient amount of time for the sealer to dry. If you jump the gun on this - you could risk “peeling” or “bruising” the sealer from the wheels on the striper. Also you should be aware that sealer that is not cured out may bleed into the paint and change its color!

Striping the Job is the Finishing Touch!

It is also the most noticeable part of your job. It is very important that the quality of workmanship you applied on sealcoating, maintains itself thru the striping process.

Some jobs require a **Traditional Traffic Marking Paint**, while others require a combination of paint and thermoplastics. Most traffic marking paints for the application in parking lots should meet the Federal Specification of TTP-1952 E. This is a widely used specification for water based, fast drying paints to be applied onto asphalt surfaces. Through the years we have found that acrylics (Water) based paint is more durable and longer lasting.

A **Thermoplastic Application** generally requires an Alkyd City/County/State Specification with the addition of glass bead during application. Thermoplastic is most often used on STOP Bars, where the driver leaves the parking-lot and drives out onto a roadway. In some cases reflective pavement markers (RPM's) may also be required.

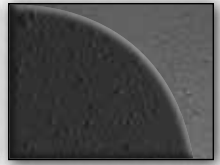
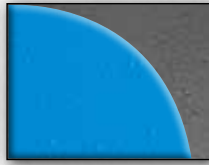
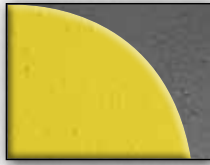
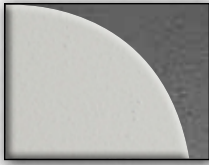
Stenciling with Arrows & Messages onto the asphalt has to be precise and even throughout the job. Be sure to follow Local, County and State requirements for appropriate traffic marking controls.

Replacing Parking-Lot Signage can Dramatically enhance the visual aspects of the job you are doing. Installing new STOP, Do Not Enter, & Handicap signs with new posts, can go a long way to enhance the look and value of a property

Please Note: Florida Code states that the bottom of the Primary installed sign to the ground is a 7' clearance.



Traffic Paint Coverage Rates



Parking Lot Striping – Paint Quantity Needed

For **Parking Lot Stripes** 4” wide and 18’ long; That is equal to 6.00 sq. ft. total. So that means approximately 16 stripes can be painted with 1 gallon of paint.

| NUMBER OF STRIPES | GALLONS USED |
|-------------------|--------------|
| 1 | .06 |
| 5 | .30 |
| 10 | .60 |
| 15 | .90 |
| 20 | 1.20 |

Highway Striping – Paint Quantity Needed

For a **Solid Traffic Stripe**; 4” wide and 5280’ long (1 mile) it will require approx. 16.5 gallons of paint.

For a **Skip Traffic Stripe**; 4” wide and traveling 5280’ (1 mile) it will require approx. 4.125 gallons of paint, assuming that each stripe is 10’ long & each paint stripe is separated by an unpainted space 30’ in length.

| MILES | GALLONS - SOLID STRIPE | GALLONS - SKIP STRIPE |
|-------|------------------------|-----------------------|
| .10 | 1.650 | 0.413 |
| .50 | 8.250 | 2.064 |
| 1.00 | 16.500 | 4.125 |
| 5.00 | 82.500 | 20.625 |
| 10.00 | 165.000 | 41.350 |

Glass Bead Coverage Rates

To ensure optimum retro-reflective performance and durability, apply standard Highway Glass Beads at the rate of;

6–8 pounds per gallon of Traffic Marking Paint.

10–12 pounds per 100 square feet of Thermoplastic.



Please Note: Coverage Rates are Approximate - Aggregate Size, Profile and Asphalt Age can Increase the amount of material needed for your application.

Thermoplastic Traffic Control Markings

THERMOPLASTIC - is a Pavement Marking Material that has been used in the U.S. since 1958 and continues today continuing good results. Consisting of a mixture of glass beads, binder, pigment and filler materials, thermoplastic, as its name suggests, becomes liquid when heated.

CORRECT APPLICATION - Thermoplastic Material is reliant on using the proper melt temperature, in fact it is the most important factor in the mixing, melting & bonding of thermoplastic. Heated to a temperature of 420° F and agitated properly, the dry thermoplastic compound becomes a homogenized liquid. When applied at this temperature, the thermoplastic melts into the upper surface of the asphalt, forming a thermal bond.

APPLICATION THICKNESS - Thermoplastic should be as specified; A minimum thickness of 90 mils is important to the material's ability to hold the heat necessary for good bonding. The thermal bonding that occurs when application is at the proper thickness ensures the thermoplastic's durability and long term retro-reflectivity. Being raised above the road surface, combined with the retro-reflectivity produced by the glass beads, makes thermoplastic more visible from a distance and at night. The thickness also contributes to improved retro-reflective performance in wet conditions and the exceptional durability of the product.

GLASS BEADS - The amount of glass beads, both mixed in with the compound and dropped on the installed line, must be correct. Drop-on beads must be applied evenly and adhered to a depth of 60%.

THERMOPLASTIC COVERAGE RATE

Application temperature is approximately 400° – 425° F.

Coverage estimate at a mil thickness of .125 is as follows:

| | | |
|---------------|---|--------------------------|
| 1 ton | = | 1500 sq. ft. coverage |
| 4" wide line | = | 4500 linear feet per ton |
| 6" wide line | = | 3000 linear feet per ton |
| 8" wide line | = | 2250 linear feet per ton |
| 12" wide line | = | 1500 linear feet per ton |



Please Note: Coverage Rates are Approximate - Aggregate Size, Profile and Asphalt Age can Increase the amount of material needed for your application.

American Disabilities Act

What You Need to know

www.ada.gov

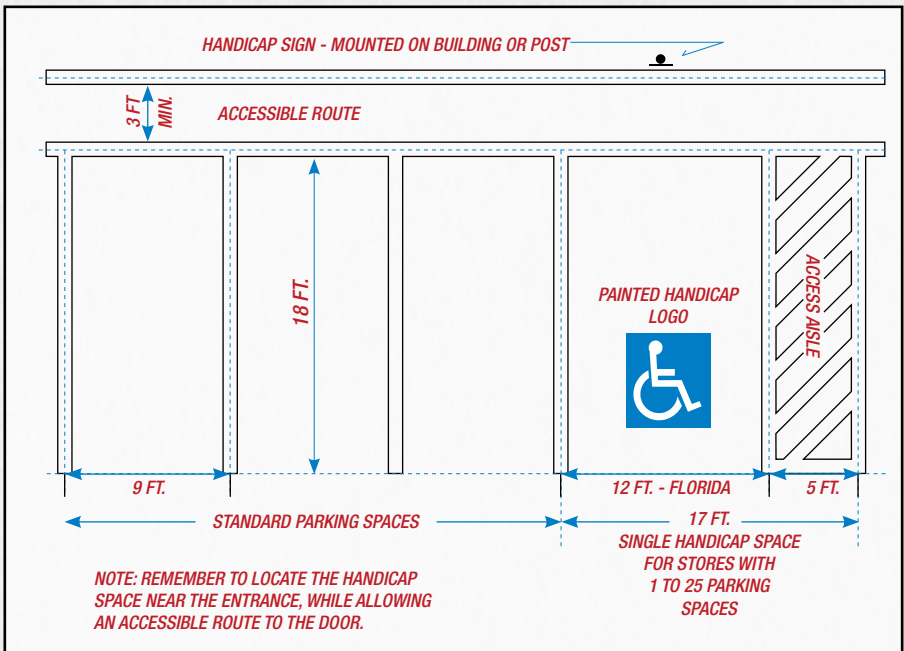
www.access-board.gov/adaag

The American Disabilities Act (ADA) contains a Federal Mandate for Handicap parking space requirements at buildings open to the public. The guidelines are as follows:

Number of Accessible Parking Spaces required for Commercial Properties Open to the Public.

| | | | | | | | | | | | |
|-----------------------------------|---------|----------|----------|-----------|------------|------------|------------|------------|------------|--------------------------|------------------|
| Number of Spaces on Lot | 1 to 25 | 26 to 50 | 51 to 75 | 76 to 100 | 101 to 150 | 151 to 200 | 201 to 300 | 301 to 400 | 401 to 500 | 501 to 1000 | 1001 & Over |
| Min. # of Accessible Spaces Req'd | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2% of Total | 20+ for ea. 1000 |
| Of those Req'd to be Van Access. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 in 8 Accessible Spaces | 1 in 8 Over 1000 |

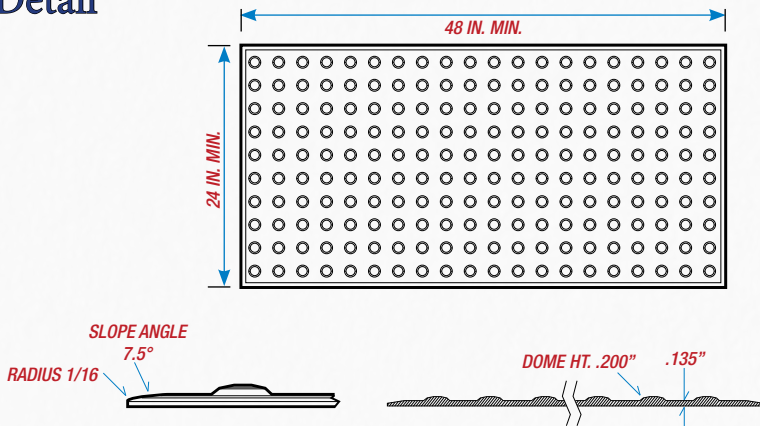
Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!



ADA Detectable Warning Mat

Specifications

Detail



Our DWM (Detectable Warning Mat) is an injection-molded polymer mat that is lightweight, easy, and economical to install. Unique Peel-n-Stick backing, epoxy resin, and with steel anchors to allow for permanent installation on a variety of substrates. The flexible construction allows the DWM to be easily cut on the job site or in order to conform to the contours and variations common on concrete sidewalks. Our DWM is manufactured using a specially formulated UV protection and cold weather package that provides years of use without discoloration or fading. Our DWM's color is homogenous throughout the mat & conforms to ADAAG specifications.

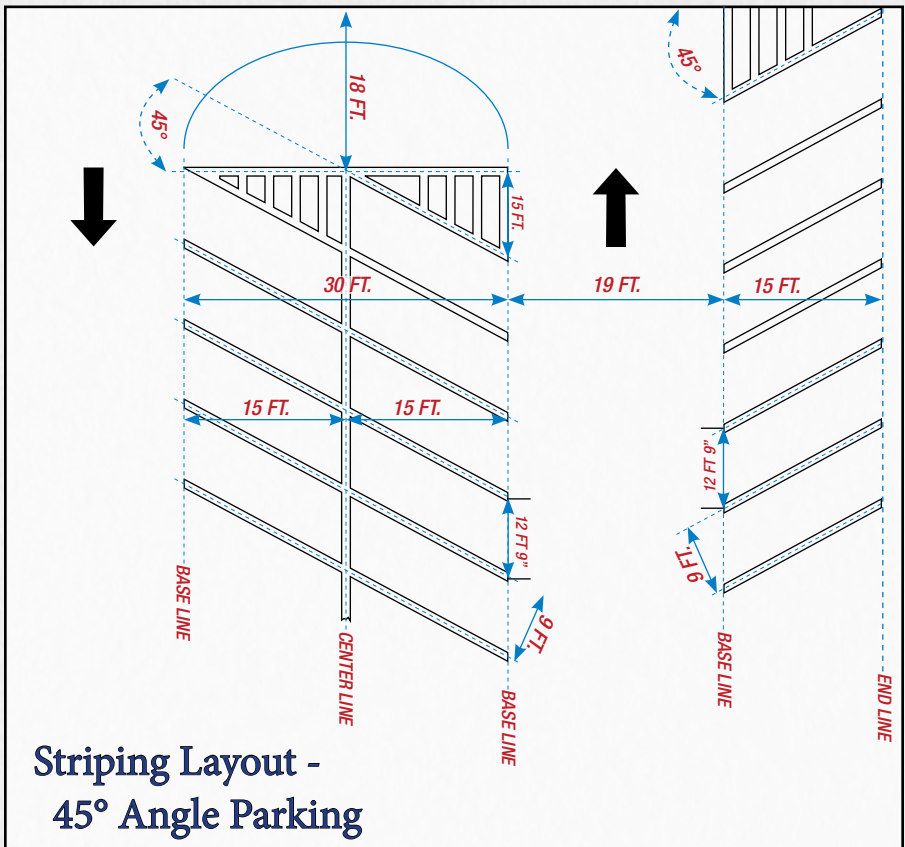
Color Available - Yellow

45° Angle Striping Layout

National Standards for Angle in Parking

- 1) Start any layout from a square (90°) corner, usually nearest a building.
- 2) National standards for measuring spaces:
 - a) 9 feet between spaces at 90° angle.
 - b) 15 feet from base line to end line.
 - c) 12 foot 9 inches between end points.
 - d) 19 feet for driveway spaces.
 - e) 18 feet for turns and entrances.
- 3) Use directional arrows.

Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!

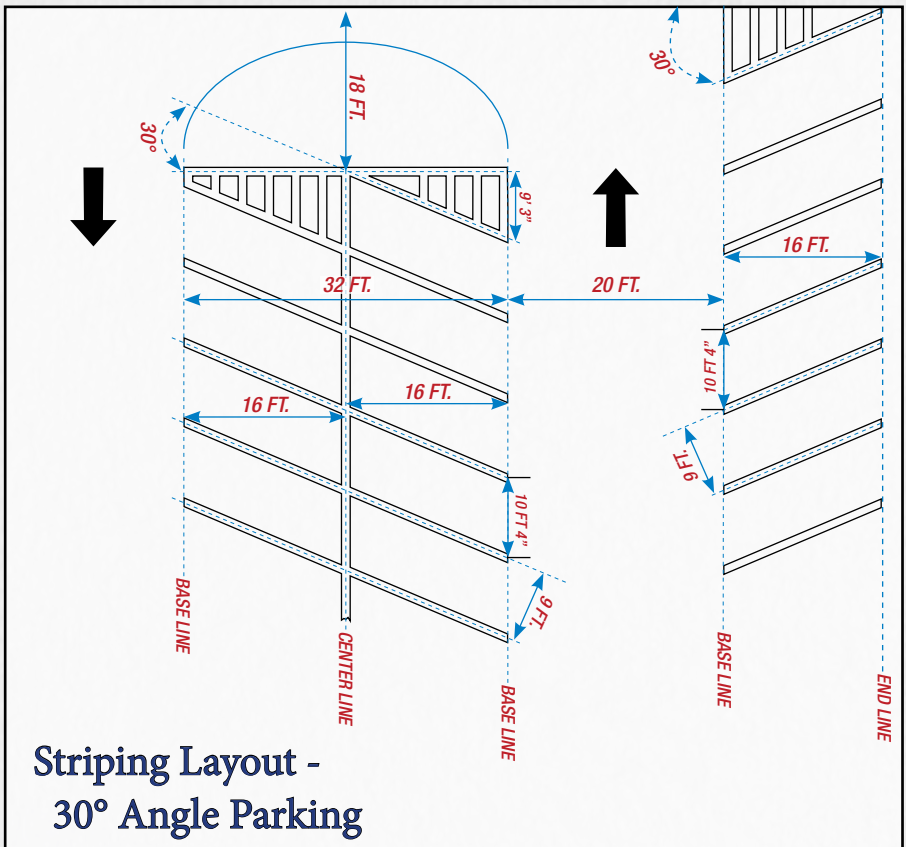


30° Angle Striping Layout

National Standards for Angle in Parking

- 1) Start any layout from a square (90°) corner, usually nearest a building.
- 2) National standards for measuring spaces:
 - a) 9 feet between spaces at 90° angle.
 - b) 16 feet from base line to end line.
 - c) 10 foot 4 inches between end points.
 - d) 20 feet for driveway spaces.
 - e) 18 feet for turns and entrances.
- 3) Use directional arrows.

Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!

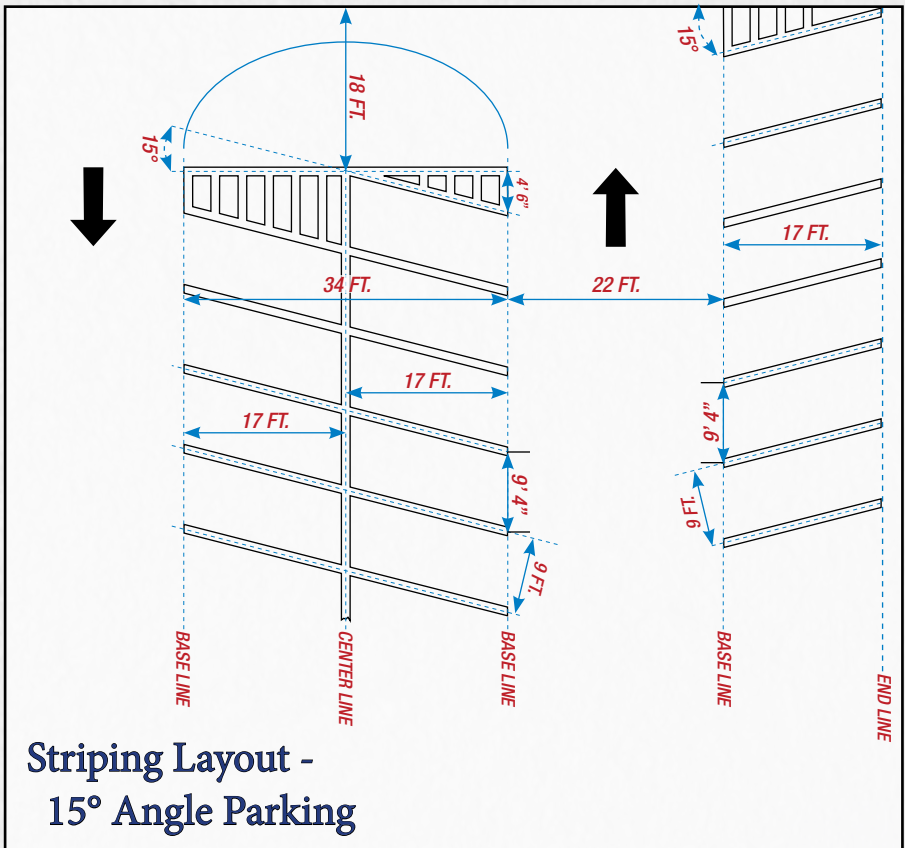


15° Angle Striping Layout

National Standards for Angle in Parking

- 1) Start any layout from a square (90°) corner, usually nearest a building.
- 2) National standards for measuring spaces:
 - a) 9 feet between spaces at 90° angle.
 - b) 17 feet from base line to end line.
 - c) 9 foot 4 inches between end points.
 - d) 22 feet for driveway spaces.
 - e) 18 feet for turns and entrances.
- 3) Use directional arrows.

Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!



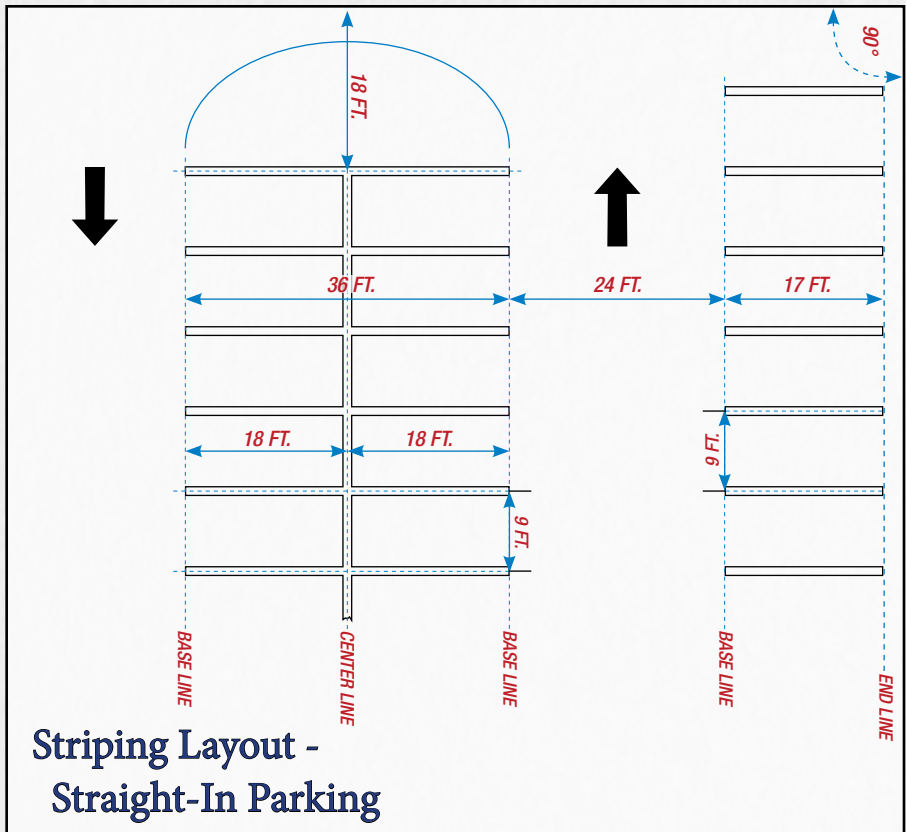
Straight-In Striping Layout

National Standards for Straight in Parking

- 1) Start any layout from a square (90°) corner, usually nearest a building.
- 2) National standards for measuring spaces:
 - a) 9 feet between each space.
 - b) 18 feet for each line length.
 - c) 24 feet for driveway space.
 - d) 18 feet for turns and in front of entrances.
- 3) Use directional arrows.
- 4) Straight in parking should always run in the longest direction of the parking lot for the most spaces to be attained.

HINTS: Snap all lines before striping to resemble checker board. Two men should lay out and stripe 50 lines per hour.

Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!

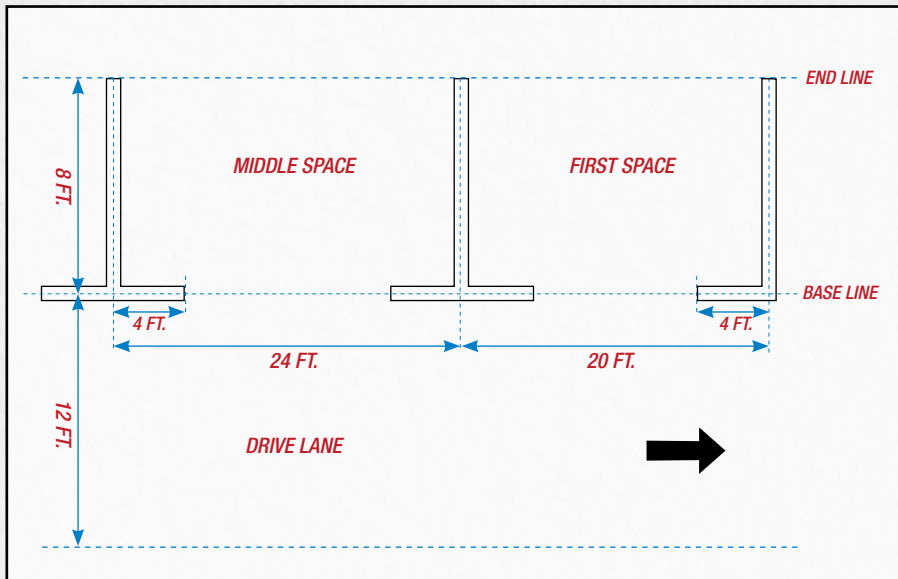


Parallel Striping Layout

National Standards for Parallel in Parking

- 1) First space is 20 feet long on open end. Middle space is 24 feet long.
- 2) 8 feet from base line to end line.
- 3) 12 foot driveway space.

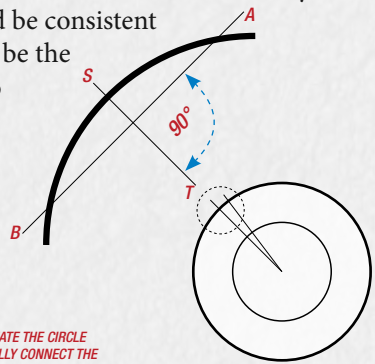
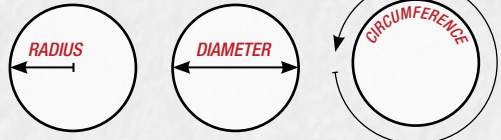
Please Note: ALWAYS Consult and Adhere to Your Local/Municipal/State Approved Engineering Plans and Codes!



Circle Striping Layout

Creating a True Radius

- 1) To ensure that stall lines are true radius lines, first snap a chord line from curb to curb at least 20 feet long (Line A-B).
- 2) At the end of that chord line, establish a perpendicular line (Line S-T) and snap it in place. This is a true radius segment and can be a stall line.
- 3) You could repeat this process for each stall line, snapping the 20-foot chord line from the stall line you just marked. The 20-foot chord line would be consistent throughout the process so all stalls would be the same size. But this approach would be too time consuming.



Following these steps will be quicker, but as a check you should create a true radius at regular intervals throughout your layout.

$$\pi = 3.14$$

$$\pi \times \text{Diameter} = \text{Circumference}$$

One end stall will always be wider - outer circle will always get widest mark.

$$\text{Diameter} = 300 \text{ ft.} \times 3.14 = 942 \text{ ft.}$$

$$\text{Outer Circle} = 942 \text{ ft.}$$

Stall Depth = 18 ft. - on both sides of circle

$$\text{Inner Circle} = 18 \text{ ft.} + 18 \text{ ft.} = 36 \text{ ft.}$$

$$300 \text{ ft.} - 36 \text{ ft.} = 264 \text{ ft.}$$

$$\text{Stall Widths} = 10 \text{ ft.}$$

$$\text{Inner Circle } 829 \text{ ft.} \div 10 = 82.9$$

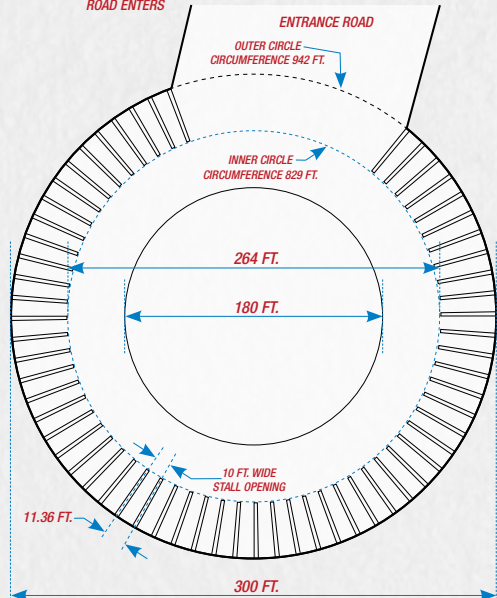
(Round off to 80 total no. of stalls)

$$\text{Outer Circle} = 942 \text{ ft.}$$

$$942 \text{ ft.} \div 82.9 = 11.36 \text{ ft.}$$

$$\text{The Outer Stall Width} = 11.36 \text{ ft.}$$

TO CREATE THE CIRCLE MENTALLY CONNECT THE CURBS WHERE THE ACCESS ROAD ENTERS



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