

# Ice Free Switch®: Application Information

Winter  
Operating  
Switch  
Agent

## WHEN TO APPLY



Apply Ice Free Switch prior to snowfall to prevent switch failure due to metal components freezing, snow packing that prevents switch point contact, and to prevent freezing of throw rods. Ice Free Switch can also be applied to lubricate metal components. It is recommended to begin applications of Ice Free Switch when temperatures are at freezing or below. Ice Free Switch's metal gripping feature is non-newtonian, so once applied Ice Free Switch becomes static, it will NOT flow from vertical surfaces. Note: Ice Free Switch is soluble. During periods of above average temperatures and rainfall, it is not recommended to apply Ice Free Switch as this will dilute the product and minimize its performance on metal surfaces.

## SWITCH PREPARATION



Clean the switch components by sweeping debris and loose material (or snow) away from the switch components. If graphite lubricant has been used on the switch components, clean to the bare metal. Ice Free Switch will not adhere well to graphite covered metal components.

## BENEFITS



Apply Ice Free Switch with the Switch Treator® 100 hand sprayer or Switch Treator® 200 back pack spray unit, or brushed on with a Track Switch Broom to the switch components. When a Switch Treator is used, an estimated 1 gallon of Ice Free Switch per track switch is required. One gallon will allow for a liberal application of Ice Free Switch to all switch components. When a Track Switch Broom is used to apply, dip the bristles of the broom into a bucket of Ice Free Switch and brush the slide plates, throw rods, switch stand, and side rails. This will require one gallon for a typical switch and slightly more for longer turnouts.

## REAPPLICATION



When Ice Free Switch has been applied to metal components, the metal components will have a shiny appearance. It is advised to pass your thumb or index finger across the surface to test for residue of Ice Free Switch. If it is determined there is a residue, reapplication will not be necessary. Reapply Ice Free Switch after any moderate to heavy snowfall or when the shine has disappeared. Reapplication will be needed prior to the next snow or ice event.

## STORAGE



Ice Free Switch should be stored in a location that will allow the product to be the same ambient temperature as the switch components and remain capped when not in use. Ice Free Switch can be stored for several years with no adverse effects.

# Ice Free Switch<sup>®</sup>: Frequently Asked Questions

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## What is Ice Free Switch (IFS)?

IFS is a winter anti-icer that is glycol-based along with proprietary materials and one licensed from NASA AMES Research Institute that makes the product non-newtonian so it stays in place, even on vertical surfaces.

## How long does IFS last?

This is difficult to be specific as each snow event differs. Generally if the snow is a dry type snow it can melt up to 4" – 6". On a wet heavy snow it may melt up to 1". However, even if some snow accumulates in the switch, the metal surface still has a film that disrupts the freezing action of the moisture. Also, a treated switch is easily cleaned with an air lance as no snow or ice will bond to the metal.

## Can IFS be used with switch heaters?

Yes, IFS can be used in conjunction and is ideal should there be maintenance problems with the heaters.

## Does IFS wash away?

IFS may be washed off from heavy rains so it is advised to treat the switch just prior to an impending snowstorm.

## How much IFS do you have to use?

Typically about 1/2 gallon - 1 gallon per switch is required to treat the plates, points, throw rods, switch stand and side rails.

## Is IFS conductive?

IFS is non-conductive. It will not act as an insulator and will not support current to carry electricity.

## Is IFS corrosive?

IFS is completely non-corrosive.

## Will IFS build up on the switch or pack up?

No.

## Does IFS lubricate the switch?

Yes, IFS will lubricate the metal components to aid the throw of the switch.

## Do I need to clean the switch before applying?

If graphite is used for lubrication it is highly recommended to remove the graphite build-up so the product can make contact with the metal surfaces. If petroleum greases are used for lubrication, scrape off any packed, hardened grease and then apply. If Glidex<sup>®</sup> is used for your lubrication, you can apply directly onto this surface with no cleaning.

## Is IFS diluted with anything before applying?

No, apply IFS as shipped from Midwest. There is no thinning required.

## How do you apply IFS?

IFS can be applied by brushing or spraying as it is sprayable fluid and will spray at very low temperatures.

## If the switch is already frozen, will it thaw the ice?

IFS is designed as an anti-icer instead of a de-icer. It will not generate heat like salts or chlorides, which is exactly why it is non-corrosive and non-conductive. We do supply a de-icing agent, Enviro-Mlt<sup>®</sup>, which is used for this purpose (see website for more information). An additional point about anti-icing and de-icing, as mentioned above, it requires up to 1 gallon of IFS to pretreat a switch, a frozen switch may require 5 – 20 gallons to "thaw". Even though the de-icer is a lower per gallon price, it can be quite costly to thaw a frozen switch. Also, by using a high volume of a de-icer, it can remain in the ballast and sub-base to affect the freezing ability of the ground. When railcars pass this switch area they hit a "soft" spot and can cause future track damage.



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## Will a bug sprayer or weed sprayer work to apply IFS?

Generally these low-cost sprayers don't work well. "Bug" sprayers usually have a full cone-type twist nozzle for water-like consistency fluids. This would not be ideal for application. Some of the better sprayers (industrial type) have a fan spray nozzle which works well. We do offer the Switch Treator® 100 designed for IFS. It is a 3.5-gallon steel tank unit and has an extended wand with a flat nozzle tip. Call us for details.

## Is IFS bio-degradable?

Yes, IFS will bio-degrade.

## Is IFS flammable?

No, IFS is not flammable as it does not contain any alcohols or methanols.

## Will IFS stain hands or work clothes?

No, IFS is very clean. It is a greenish color and will wash off hands with soap and water. Likewise, clothes will not be stained when washed with typical laundry detergents.

## What is the shelf life of IFS?

As a company policy we normally recommend using the product within a year, but this product will not separate or settle and would be fine beyond the one year recommendation so it can be used from previous winters.

## How often should IFS be applied?

Your application frequency will depend on the weather activity. It is recommended to pre-treat the switch when there is a forecasted snow or ice storm. If the snow continues for several days it would be advised to clean any slush or snow that may accumulate at the switch and re-treat.

## Who uses IFS?

IFS is widely used by several Class I Railroads, numerous Short Line Railroads along with Mass Transit Authorities and many industrial facilities that have their own rail service.

## How is IFS packaged?

IFS is supplied in one-gallon plastic jugs, (4 per case), 5-gallon plastic buckets, 55-gallon plastic drums, 275-gallon steel caged totes, and also in Midwest bulk truckloads of 1,000 gallons & up.

## What other applications can utilize IFS?

IFS can be used on door tracks, couplers, cables, lift bridges, tunnel walls, signal lenses, flangeways, crossings, snow plows and blades to prevent snow build-up, truck beds hauling snow, and other areas where metal to metal freezing can occur or snow and ice can build up. If you have a specific ice or freezing problem, contact us for help.

## Can IFS be used on steps?

No, because it aids lubricity it would be a slipping hazard for any areas used by vehicles or pedestrians.