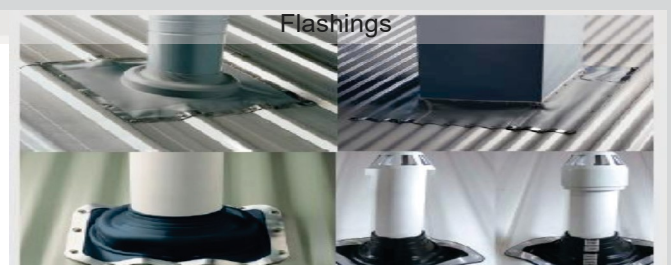
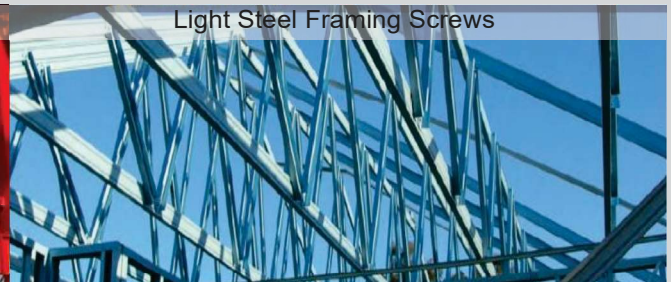
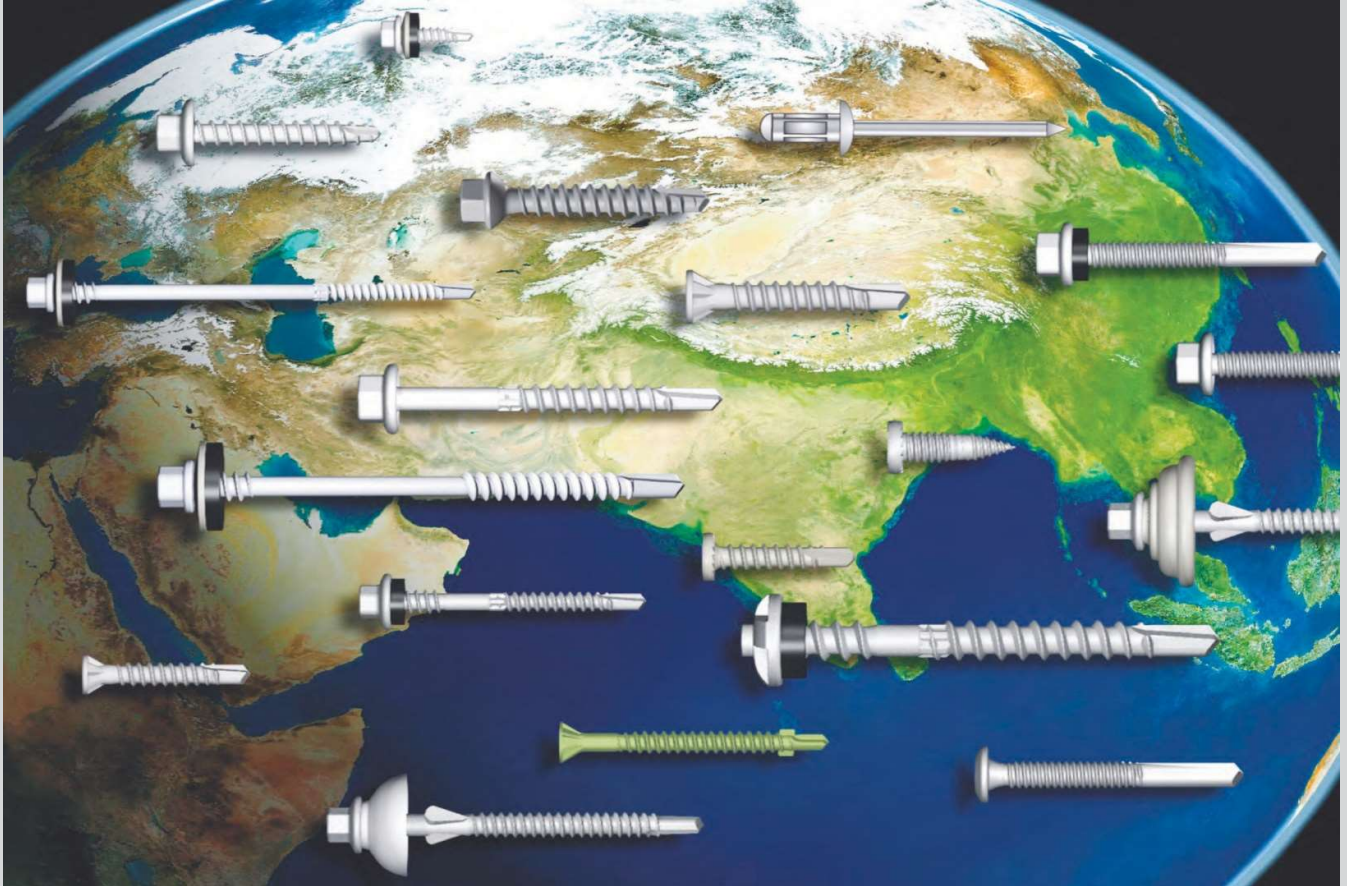


# TUFFIX<sup>®</sup>

Self Drilling Screws, Flashings, Sealants, Rivets, Hill Side Washers , Butyl Tape, Foundation Bolts & High Tensile Bolts ,

## Self Drilling Screws - Product Catalogue



# TUFFIX® - HEART OF METAL ROOFING SYSTEM

## Corporate Profile

TUFFIX® is one of the fastest growing brand in Metal Building Industry .With one of the Best Technical Expertise and collaboration TUFFIX® has been manufacturing quality fasteners for around the World .We understand fasteners as per local environment and act globally . TUFFIX® is into Self Drilling Fasteners, Sealants, Butyl Tape, Butyl Sealants, Silicone Sealants , Rivets, High Tensile Selective Nuts and Bolts for PEB, HILLSIDE Washers and Anchor Fasteners.

We have our Network widely spread in India, Nepal, Sri Lanka and Bangladesh.

TUFFIX® is committed to being the leading manufacturer and marketer of construction fastener solutions based on:

### 1. Innovative Fasteners

### 2. Outstanding Quality

### 3. Uncompromising Customer Service

#### Double thread system for single skin system

Why the corrosion resistance of TUFFIX® roofing fasteners is the same on the shanks as the heads.

Under roof corrosion of roofing fasteners is the great hidden danger. All protective coatings are subject to damage during installation. This damage is due to scratching by the roof sheeting along the shank of the fastener

A better way to overcome is by having grips Roof Fixing

Double grip WITH MBW from TUFFIX® is a revolutionary design in roof fasteners that overcomes the traditional problems with crest fixing metal roofing to steel or timber .



## INNOVATIONS FROM TUFFIX® FOR BETTER PERFORMANCE



Metal Bonded Washer along With Hex Flange of 14mm Ensure leak proof system even After over tightening and removes the possibility of seal breakages.



Trilobular Wings at the upper end ensure Polycarbonate sheets are not getting micro cracked and EPDM dome ribbed washer helps closure of gap.



Metal Bonded Washer along with Double Thread helps to have better leak proof solution for single skin roofing system.



CYCLONIC Washer 2.5mm thick assists to distribute load and thereby Increases Pull Over Load by 2 Times. 100% Aluminum Design helps in Corrosion resistance and trapezoidal Design given strength to the system.



Easy identification – “S “means SDS “3” means Class 3 .

# TUFFIX® - HEART OF METAL ROOFING SYSTEM

## TUFFIX® • Warranty



TUFFIX® fasteners are made to exacting high standards of quality and are subjected to strict inspection and testing procedures. TUFFIX® is so confident that it can guarantee the highest quality and performance of its fasteners.

S3 fasteners from TUFFIX® are successfully tested against 1000hrs Salt Spray Test and assures Warranty of 15 Years under Light Industrial / Urban (ISO Category 2) and conforms to AS3566- 2002 , Class 3 standards and Kesternish ASTM G87 for minimum 15 Cycles.

These fasteners are coated with Zinc and Polyester based coating of 30- 35 Microns thickness and super coated with Florocote.

This Tripple layer coating ensures better corrosion Performance and resist the base material AISI1022 from corrosion after fastening to the Purlin. Washer is Non Conductive EPDM as per ASTM – D 257.

<p><b>Roofing &amp; Cladding Screws</b></p> <p>Roofing fasteners for crest fixing</p> <ul style="list-style-type: none"> <li>12 -14 X 45 mm</li> <li>12 -14 X 50 mm</li> <li>12 -14 X 55 mm</li> <li>12 -14 X 68 mm</li> </ul>		<p>TUFFIX® (SDS) Point Used for drilling and fastening into steel purlins</p>
<p>Fasteners for valley fixing</p> <ul style="list-style-type: none"> <li>12 -14 X 20 mm</li> <li>12 -14 X 25 mm</li> <li>12 -14 X 35 mm</li> </ul>		
<p>Stitching screws for two sheets ,flashings and gutters</p> <ul style="list-style-type: none"> <li>10 -16 X 16 mm</li> <li>10 -16 X 20 mm</li> <li>10 -12 X 20 mm</li> <li>10 -16 X 25 mm</li> </ul>		
<p><b>Super TUFFIX SERIES 500</b></p> <p>Designed for use in thick steels (hot rolled steel) from 4.0mm to 12.5mm</p> <ul style="list-style-type: none"> <li>12 -24 X 38 mm</li> <li>12 -24 X 53 mm</li> <li>12 -24 X 68 mm</li> </ul>		<p>Tuffix 500Point Used for drilling and fastening into thick steel</p>
<p><b>Composite Panel SDS</b></p> <p>Self Drilling screws for fitting composite to steel purlins</p> <ul style="list-style-type: none"> <li>12 -14 X 75 mm</li> <li>12 -14 X 100 mm</li> <li>12 -14 X 120 mm</li> <li>12 -14 X 150 mm</li> <li>12 -24 X 150 mm</li> </ul> <p>We recommend Full Thread for Composite Panel with Metal Bonded Washer</p>		

# TUFFIX® - HEART OF METAL ROOFING SYSTEM

## Stainless Steel

Quality protection in harshest of environments

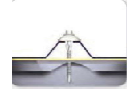
- 10 -16 X 20 mm
- 12 -14 X 25 mm
- 12 -14 X 55 mm
- 12 -24 X 63 mm
- 12 -24 X 75mm
- 12-24 X 125mm



## Sky Light Firing Screws

For Fixing of Polycarbonate Sheet

14 -14 X 70 mm PolyTek's Hex Head S3 with 26/32mm EPDM Seal



GAUGE OF FASTENER

THREAD PER INCH

LENGTH OF FASTENER

\*\* For any further technical details please contact our AUTHORISED Representative

## Other Information

Raw Material	Low Carbon Steel – AISI 1022
Application	S3 Head Mark fasteners from TUFFIX® are designed for fixing metal to metal from 1mm to 4.5mm thick Purlins .with TK3 , 3mm to 6mm for TK4 point and 4mm to 12.5 mm for TK5 point.
Installation Instructions	<ol style="list-style-type: none"> <li>1. Ensure the total thickness of metals to be joined does not exceed 2mm for TEK2 , 4.5mm for TEK3, 6mm for TEK4 and 12.5mm for TEK5</li> <li>2. Use appropriate Hex / PH Drive Socket for the appropriate gauge of Screw</li> <li>3. Fit driver to a power screwdriver approximately 2500rpm. Avoid Using Drill Machine for Screw Driving.</li> <li>4. Fit screw to driver and place at fastening position</li> <li>5. Use maximum revs for drilling then slow down when thread engages in order to screw properly.</li> <li>6. Please note that Hollow section need not be drilled through on both sides.</li> <li>7. Use Screws with Metal Bonded Washers wherever possible to have leak proof installation.</li> <li>8. Always take extra care in installation of Polycarbonate with Poly Screw.</li> </ol>
Storage Information	The screw stock should be stored in ventilated area
Cyclonic Washers	All Cyclonic Washers should be used with EPDM on both sides of Washer Plate

## TECHNICAL SPECIFICATIONS

### Dimensional Properties

DIMENSIONAL PERFORMANCE ON SAMPLING BASIS I/100M									
Type of Screw	Description	Dia (d)		Length		Flange Dia		Flange Thickness	
		Standard	Actual	Standard (mm)	Actual(mm)	Standard	Actual	Standard	Actual
	HWFS 10-12X20	4.65 - 4.80	4.7		19.8	11	11.2	2.1	2.1
	HWFS 10-16X20/25	4.65 - 4.80	4.7		19.7/24.8	11	11.2	1.59	1.59
	HWFS 12-14X20/25/35/45/55/68/100/120	5.31 - 5.46	5.4		20/24.9/35.1/45/54.8/68/100.1/119.5	14	14	1.8	1.8
	HWFS 12-24X38/65/95	5.32 - 5.49	5.4	Screw Length ≤20 Tolerance +0, -0.6 Screw Length >20, ≤40 Tolerance +0, -1 Screw Length ≥40 Tolerance +0, -1.2	37.9/64.9/95.1	14	14	1.06	1.06
	HWFS 12-14X55/75	5.31 - 5.46	5.4		55/75.1	14	14	1.8	1.8
	HWFS 14-14X35/68(poly)	6.10 - 6.25	6.2		34.9/68	14	14	1.8	1.8
	HWFS 12-14X70	5.31 - 5.46	5.4		69.7	14	14	1.8	1.8
	WH 10-16X20/35	4.65 - 4.80	4.7		21/34.5	NA	NA	NA	NA
	CS 8-18X25/35	4.1 - 4.2	4.15		24.5/35.1	NA	NA	NA	NA
	CS 10-16X30/50	4.75 - 4.80	4.78		29.8/49.9	NA	NA	NA	NA

# TUFFIX® - HEART OF METAL ROOFING SYSTEM

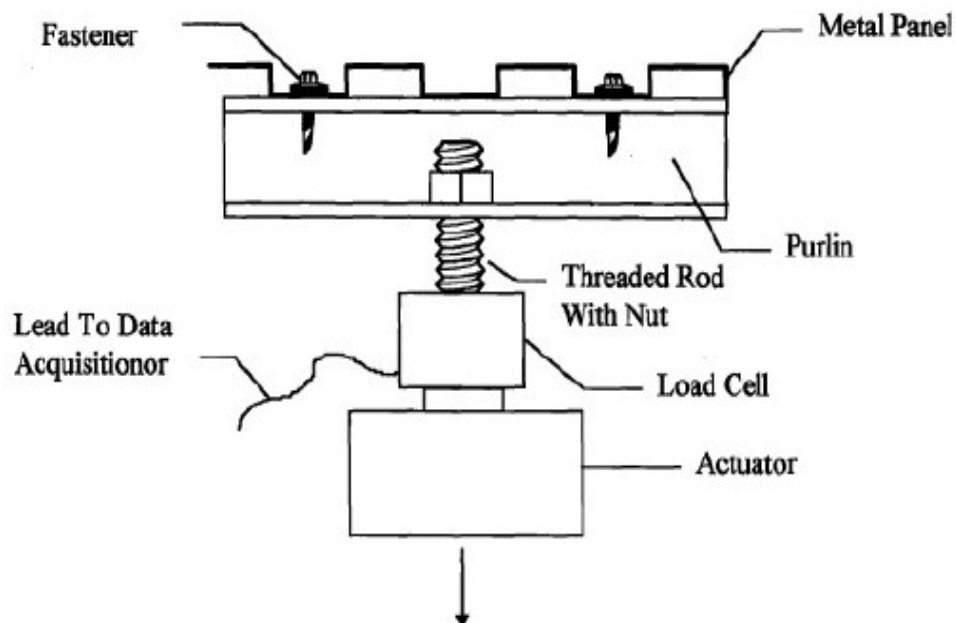
## DESIGN ASPECTS FOR MECHANICAL FEATURES OF SCREW

CHEMICAL COMPOSITION ON SAMPLING BASIS I/100M - AISI 1022			
CHEMICAL COMPOSITION	CARBON	MANGANESE	PHOSPHORUS
STANDARD RANGE	0.18% - 0.23%	0.6% - 0.9%	≤ 0.03%
ACTUAL %	0.21%	0.73%	0.01%

## MECHANICAL PROPERTIES

Guage	TPI	Single (KN)	Shear	Axial Tensile (KN)	Torsional (Nm)
5.5mm/12g	14	8.8		15.3	13.2
4.8mm/10g	16	6.8		11.4	8.4
4.8mm/10g	24	6.2		11.9	8.6
5.5mm/12g	24	9.0		16.7	13.5
6.3mm/14g	20	11.2		21.2	20.4


ULTIMATE PULL OVER LOAD IN NEWTONS			
550 MPA YIELD STRENGTH OF SHEET			
TCT	0.47	0.55	0.63
12 gauge with EPDM	7711	9024	10336
14 gauge with EPDM	8523	9973	11424
12 with 16 MBW	12987	15198	17408
14 with 19 MBW	15422	18047	20672





# TUFFIX® - HEART OF METAL ROOFING SYSTEM

## DESIGN ASPECTS FOR MECHANICAL FEATURES OF SS 304/316 SCREW

Screws Chemical Compositions : %									
Steel	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
SUS XM7 (302 HQ)	Max 0.03	Max 1.00	Max 2.00	Max 0.045	Max 0.030	8.00~ 10.00	17.00~ 19.00	—	3.00~ 4.00
SUS 304 (304 M)	Max 0.08	Max 1.00	Max 2.00	Max 0.045	Max 0.030	8.00~ 10.00	18.00~ 20.00	—	—
SUS 316 (316CU)	Max 0.03	Max 1.00	Max 2.00	Max 0.045	Max 0.030	10.00~ 14.00	16.00~ 18.00	2.00~ 3.00	3.00~ 4.00

Pull-Out Tests					
	Steel Thickness (mm)	Tensile Strength kgf (min)			
		#12 (Ø5.5)		#14 (Ø6.3)	
		NO.3 Point	NO.5 Point	NO.3 Point	NO.5 Point
		2	300	—	310
3	530	—	580	—	
4	780	—	800	—	
6	810	—	900	—	
10	—	920	—	1050	
12	—	920	—	1050	

Mechanical Properties Tests					
Drill Point	Size	Torque Strength kgf-cm(min)		 Tensile Strength kgf(min)	 Shear Strength kgf(min)
		SUS304 SUS316	SUS302		
NO.3 Point	#8 (Ø4.2)	45	36	—	—
	#10 (Ø4.8)	52	42	—	—
	#12 (Ø5.5)	84	68	810	620
	#14 (Ø6.3)	132	—	900	710
NO.5 Point	#12 (Ø5.5)	84	68	920	650
	#14 (Ø6.3)	132	—	1050	745

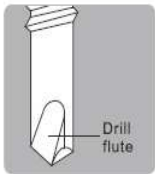
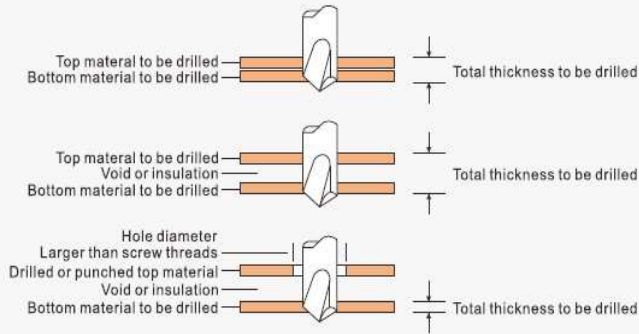
# TUFFIX® - HEART OF METAL ROOFING SYSTEM

## DESIGN ASPECT FOR PHYSICAL FEATURES OF SCREW

### Suggested material thickness for steel application

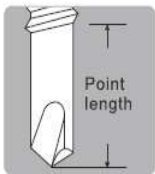
	Point No.	Material thickness m/m max.
Self drilling screws	#1 & #2	1.0-1.5mm
	#3	4.0-5.0mm
	#4	7.0-8.0mm
	#5	10.0-12.0mm
Drywall & tapping screws	—	0.7-1.0mm

### Drill point selection



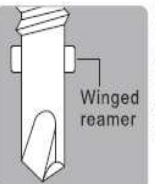
#### Drill Flute

The length of the drill flute determines the metal thickness that can be drilled. The flute itself provides a channel for chip removal during drilling action. If it becomes completely imbedded in material, drill chips will be trapped in the flute and cutting action will cease. This will cause the point to burn up or break.



#### Point Length

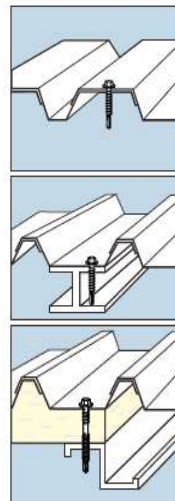
The unthreaded section from the point to the first thread should be long enough to assure the drilling action is complete before the first thread engages the drilled metal. Screw threads advance at a rate of up to ten times faster than the drill flute can remove metal. All drilling therefore should be complete before threads begin to form.



#### Drilling Through Wood To Metal

If your application calls for drilling through wood over 1/2" in thickness, a clearance hole is required. Select a fastener with break away wings for this type of job. The wings will ream a clearance hole and break-off when in contact with metal surface (minimum metal thickness .090") to be drilled.

### Different type of application



### Common fastener head style and drive

<b>BUGLE PHILLIPS</b>  FOR FASTENING GYPSUM AND SOFTWOODS	<b>HEX WASHER</b>  FOR STEEL TO STEEL
<b>WAFER PHILLIPS</b>  FOR WOOD TO STEEL	<b>QUADREX</b>  NO "CAM-OUT" DRIVE SYSTEM
<b>PANCAKE PHIL.</b>  LOW PROFILE FOR STEEL TO STEEL	<b>FLAT PHILLIPS</b>  FOR WOOD TO STEEL
<b>PAN PHILLIPS</b>  FOR STEEL TO STEEL	<b>PAN FRAMING PHILLIPS</b>  FOR FRAMING TRACK TO STUD
<b>FLAT TRUSS PHIL.</b>  LOW PROFILE FOR LIGHT GAGE STEEL CONNECTIONS	<b>MOD. TRUSS PHIL.</b>  LOW PROFILE FOR STUD TO TRACK, K-LATH, AND HAT SECTION
<b>TRIM HEAD SQ.</b>  FOR WOOD TO STEEL	<b>HEX WASHER WITH SEALING WASHER</b>  FOR EXTERIOR STEEL TO STEEL



# TUFFIX® - HEART OF METAL ROOFING SYSTEM

TUFFIX® is one of leading manufacturers and suppliers of Self Drilling Screws and fasteners from TAIWAN

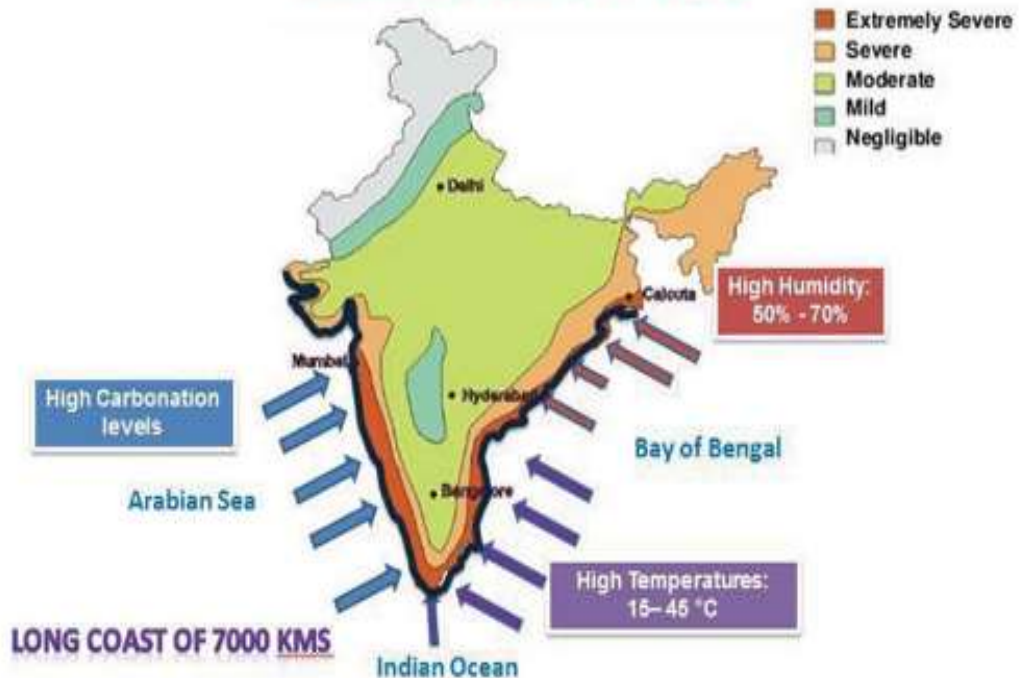
- Once tested always preferred in roofing industry
- The wide spread network in India and across the World with quick deliveries
- Company endorsed with ISO9001
- Inventor of Leak proof System in PEB
- Only company who does Real World Testing of fasteners regularly
- All our fasteners Complies to AS3566-2002 Standard
- Guaranteed yield per screw
- Highest yield per screw
- Best quality fasteners in the industries



1. S-3 HEAD MARK RECOMMENDED FOR ALL THE ZONES EXCEPT EXTREME SEVERE ( ORANGE COLOR )

2. FOR EXTREME SEVERE S-3 HEAD MARK WITH POWDER COLOR COATED HEAD WITH MBW IS RECOMMENDED OR SS 304 BI-METALLIC SDS IS RECOMMENDED .

## CORROSION MAP OF INDIA



### TUFFIX® DISTRIBUTION NETWORK :

NORTH : LUDHIANA , DELHI , JAIPUR , KANPUR , CHANDIGARH ,INDORE ,BHOPAL ,JHANSI ,GWALIOR ,JAIPUR ,JODHPUR ,JAMMU ,AMBALA  
 SOUTH : SALEM ,COIMBATORE , TIRUNELVELI , MADURAI , COCHIN ,TRIVENDRUM ,BANGALORE ,VIJAYWADA ,HYDERABAD ,VISHAKAPATNAM , HUBLI ,MYSORE ,PONDICHERRY  
 EAST : KOLKATA ,JAMSHEDPUR , CUTTACK ,BHIUBANESHWAR ,SHILLONG ,RAIPUR ,ROURKELA  
 WEST : MUMBAI ,PUNE ,NAGPUR ,NASIK , AHMEDABAD ,SURAT , BARODA ,GOA ,SILVASSA ,RAJKOT



UNIQUE REALWORLD TESTING

India Office

(S-3 FASTENERS)  
 42, Paper Mills Road,  
 Perambur, Chennai - 600011

Authorized Distributor/Dealer:

Arkoo Infra & Trade Pvt. Ltd.  
 S.NO-87/1, Kute Sukhvastu, Fl No. 103  
 Walhekarwadi Ravet Road, Chinchwad  
 Pune 411033  
 Email-info@arkooinfra.com

For More Information Please Contact our Authorized Dealers in respective region

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