

**CORDLESS
DIRECT FASTENING
TECHNOLOGY**

TrakFast™ 800

Automatic Gas Fastening Technology



PULSA TECHNOLOGY
800 SERIES

TECHNOLOGY
IPC
INTELLIGENT POWER CONTROL

CE Complies with European Safety Standard EN792-13

 **Ramset™** *split*



Ramset™

GO DIRECT!

Drive Jobsite Speed

TrakFast 800 System Advantages:

- NO LICENSING REQUIRED!
- AUTOMATIC FIXING! Very **Easy** to Use.
- SIGNIFICANTLY **FASTER!** Than Drill & Plug, and Welding
- NO MORE DRILLING! No Dust. **Safe** Work Process. **Quieter!**
- NO MORE WELDING! No Hot Work Permit Required!
- CORDLESS! Greater **Mobility** and No Setting Time.
- NO L.E.W! **Save** Thousands of Dollars on LEW Costs.
- FEATURED AT BCA ACADEMY **PRODUCTIVITY GALLERY!**
- **ONE TOOL, ONE STEP, ONE-MAN OPERATION!** Solution to Your MYE, High Levy & Project Delay Problems.
- MORE SAVINGS! **Simplify** Work Process & Eliminate the Needs for the following Equipment , Consumables & Accessories:



FINISH JOB FASTER • SAFER • SIMPLER • QUIETER

Fixing wall tie and Bonding bar system @ HDB



Genuine AISI 304 Drive Pins from Japan

Fixing electrical conduit clips and trunking system



No more Drilling

Fixing structural steel clips sheets on structural steel



Replaces Spot Welding

Fixing drywall tracks



Ballistic Point Pin for Excellent Success Rate in Hard Concrete

Contact Us for FREE Advice, Demonstration & Full Training Today!



ITW Construction Products

Tel: +65 6746 1177

marketing@itwcpsea.com



Ramset™

DELIVERING MORE VALUES!

A Proud Heritage

Ramset™

In 1952, Siddons Drop Forgings Limited, a company founded by John Siddons secured the rights to the world's first commercially viable powder actuated fixing system. The company Ramset™ Fasteners was then formed, and destined to become a leader in developing, manufacturing and supplying the latest technology for the construction industry. Principal among this technology was concrete fixing, drilling and anchoring systems as well as construction chemicals.



Today, more than 50 years after being founded, Ramset™ is part of ITW - Illinois Tool Works Inc, a multi-billion dollar organization ITW, Ramset has access to almost 100 years of experience in the design, development and manufacture of fasteners and components, equipment & consumable systems across the world. Other leading ITW group construction brands:



Ramset™ Technical Services

In the Southeast Asia region, the Ramset Technical Services Team is always on hand to provide on or off site support when you need it most and have offered advice on a variety of high profile projects including Changi Airport Terminals, Singapore Sports Hub, MediaCorp Complex, Quadro Residence, KLCC, and Manila Bay Resort.

Our highly trained personnel are able to provide support at all stages of the design and construction process from Specification Advice through to onsite testing and installation training. The Technical Team offer comprehensive on-site support for all of our customers. This support can range from product demonstration, application testing and tool box talks, through to proof and failure load testing for safety critical applications.

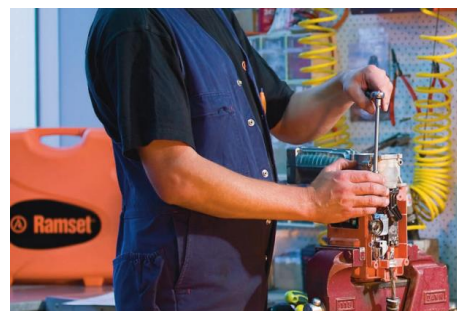


When it comes to safety, we know that training is critical, which is why we pride ourselves on our extensive range of product training offered to our customers. We currently train over 12,000 end users per annum. End users and contractors can benefit from our on-site product training, which is offered free of charge to anyone using our product.

Ramset™ Repair Services

We regard producing quality long-life tools equally important to providing a dedicated resource to service them. Our tool repair specialists know tools down to the smallest detail. Leave it to our experienced professionals to take care of your tools repairs. Our technicians identify the failure mode and take the corrective action.

Our Tool Repair Service Centre is located at:
4 Changi South Lane
#06-01 Nan Wah Building
Singapore 486127



Corporate Profile

About ITW

Founded in 1912, Illinois Tool Works or ITW (NYSE: ITW) is a Fortune 200 company that produces engineered fasteners and components, equipment and consumable systems, and specialty products. It is based in Glenview, Illinois, with operations in 57 countries that employ approximately 49,000 women and men who adhere to the highest ethical standards. These talented individuals, many of whom have specialized engineering or scientific expertise, contribute to our global leadership in innovation. We are proud of our broad portfolio of approximately 16,000 active and pending patents.

ITW's recipe for success has been consistent: value added products and outstanding service win the day with customers. We place a high premium on the development of highly engineered products and systems—most of which are developed in tandem with our customers. And we continue to ensure that our customers receive timely, cost-effective service for the innovative products we provide.

We're Everywhere

ITW's products and solutions are at work all over the world, in deep-sea oil rigs, aerospace technology, bridges and wind turbines, healthcare, the spaces in which we live and work, the cars we drive, and the mobile devices we rely on. We are never, whether we know it or not, more than a few steps from an innovative ITW solution.

ITW Business Segments



Automotive OEM. ITW Global Automotive specializes in the design and manufacture of metal, plastic, cold-formed and other related fasteners and products for automobiles and trucks.



Polymers & Fluids. Adhesives, sealants, lubrication and cutting fluids, janitorial and hygiene products, and fluids and polymers for auto aftermarket maintenance and appearance.



Test & Measurement and Electronics. Equipment, consumables and related software for testing and measuring of materials and structures, and equipment and consumables used in the production of electronic subassemblies and microelectronics.



Welding. Arc welding equipment, consumables and accessories for a wide array of industrial and commercial applications.



Food Equipment. Commercial food equipment and related service.



Specialty Products. Diversified segment includes beverage packaging equipment and consumables, product coding and marking equipment and consumables, and appliance components and fasteners.



Construction Products. Construction fastening systems and truss products for the commercial, residential and remodeling/ renovation sectors.

The **Construction Products** segment established its base in Asia in 1973 by opening, in Singapore, a wholly owned subsidiary of ITW known today as ITW Construction Products (Singapore).

With the objective of providing customers' satisfaction, ITW expanded its presence in Asia by opening local entities in various markets such as Hong Kong (1974), Mainland China (1998), Thailand (2008), and Indonesia (2011). Today, ITW Construction Products (Singapore) also sells through selected distributors in Malaysia, Indonesia, Vietnam, the Philippines and Korea.

Trusted Construction Brands Owned by ITW



ITW-Owned Manufacturing Facilities

Ramset™

Established in Australia over fifty years ago, Ramset™ has built a strong and enviable reputation for developing, manufacturing and supplying the building and construction industry with leading edge drilling, anchoring and fixing products.

The Ramset™ Chemical Anchoring is one of the top leading brands in Southeast Asia due to its high quality, reliability and versatility for anchoring threaded studs, rebars and starter bars into solid and hollow substrates. Our American-made Epcon G5, has become the preferred choice of the contractors when it comes to jobsite productivity as it is the only fast cure epoxy adhesive available in the market. Epcon G5 is manufactured by ITW Red Head, the Leading Manufacturer of Anchoring Solutions in America based in Illinois, Chicago.

Ramset™ Gas Fastening System employs the latest Spit's Pulsa technology to fasten to concrete, steel and other common building materials. This revolutionary Pulsa Technology, since its first introduction in Europe in 1992, has changed the way fastening works are done around the world.



ITW Construction Systems International
1 Ramset Drive
Chirnside Park,
Victoria 3116
Australia



ITW Red Head
2171 Executive Drive
Addison, IL 60101
USA

Spit

Spit is the proven expert in fixing and drilling. Founded in 1981 in southern France, Spit has developed a vast experience of European construction which has enabled it to develop a comprehensive range of anchors, resins, nailers and rotary hammer drills.

The R&D Team at Spit continually creates new innovations for the benefit of the construction industry, which reduce the overall environmental impact and improves health and safety whilst on site.

Unlike any direct competitor, Spit develops and manufactures a significant portion of its product range in Europe for both local and overseas markets. The professionals' selection of mechanical anchors have been extensively and rigorously tested to exceed the most demanding Eurocode's requirements.



Société Spit
(an ITW Construction Europe organization)
Route de Lyon
F-26501 BOURG-LES-VALENCE
France

Buildex®

Established in Australia in 1917, Buildex® is an industry pioneer with innovations such as Hi-Grip®, ShankGuard® and RoofZip®. Buildex® invented the Teks® self-drilling screws which revolutionized the roofing and cladding market and the rest is history.

All Buildex® fasteners are designed to do their particular job more efficiently and effectively than conventional fasteners. When you are using Buildex® Fasteners you are using the most modern fastener available.

The Buildex® manufacturing plant in Victoria, Australia produces fasteners to exacting high standards of quality and are subjected to strict inspection and testing procedures.

While any direct competitor may meet minimum requirement of the traditional "accelerated" laboratory test, Buildex® exposes its fasteners to the combination of corrosive influences that exist in the "real world" including salt spray, humidity, uv light, acid rain and compatibility with roofing sheet.

Reid™

Reid™ has a history spanning almost 90 years as a supplier of solutions to the mining and construction industries in Australia. In the 21st century, Reid™ is at the forefront of concrete reinforcement, anchoring, fastening and fixing technologies, with the design of precast concrete and tilt-up concrete construction systems a particular specialty. Reid™ product design and development team possesses over 200 years of collective engineering experience.

Reid™ manufactures and supplies well-known brands such as SwiftLift™ Concrete Lifting Systems, Spartan™ Formwork System, Reid™ connection systems and the revolutionary architectural patterned concrete technologies such as Fitzgerald™ Formliners and Graphic Concrete™ range of products. Reid products help solve construction problems and enable better performing buildings to be constructed more quickly, more efficiently and at a lower overall cost.

NEW

PULSA 800 E-LIFT POLE TOOL

Make your PULSA system even more versatile. Quickly and safely fix our comprehensive range of pins & clips overhead without the need for costly access platforms and slow movement around site.



Code	Description	Box Qty
018820	P800 E-LIFT Pole Tool	1
018849	P800 E-LIFT Tube Extension 75cm	1

Fix up to 5 metres high with the extension pole. Optimized for a ceiling height of 3.4 metres.



Length of pole tool: 1m
Length of tube extension: 0.75m
Total length including tool: 2.135m



Expertly balanced and designed ergonomically, minimizing wrist strain.

Lightweight design eliminates fatigue; low actuation force to depress the tool and fire.

E-lift attachment for fastening at height. E-lift reduces the demand for expensive towers and platforms.

Contents of Submittal

Introduction to Our Gas Technology

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Technical Bulletin

Product System Advantages

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Product Features & Benefits

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User Operating Instructions

Risk Assessment Form

Ministry of Manpower Letter

Test Reports

Material Safety Data Sheet

Safety Instructions

Site Training Offering

Intro to Our Gas Technology

Background

ITW saw a challenge: how to create a portable tool that delivered the power of pneumatic tools without the hoses and compressors. In 1991, ITW Paslode conquered the challenge with the revolution of gas-powered technology. The cordless Impulse Finish Nailer delivered the power of pneumatic tools without cluttering job sites.

With the thought of Driving Jobsite Speed while creating a safer work environment, ITW Ramset built upon the Paslode technology and in 1992 introduced the TrakFast to the drywall trade. It forever changed the way the world worked. In 2000, ITW Ramset followed up on the success of TrakFast and the PULSA 700 system was introduced, and it revolutionized the way electrical system is installed - The rest is history!

The new PULSA 800 is the most technologically advanced direct fastening gas tool on the market, with design improvements in virtually every aspect of its operation. The **TrakFast™800** offers a number of innovative features allowing quicker and secure installation of a wide variety of clips for plumbing, data and electrical installations. The increased speed and productivity allows the contractor to bid more competitively, complete the job sooner and move on to the next job. The gas fastening technology significantly lowers cost-in-place, reduces stress on the employee, and it's much quieter to use than drilling or powder actuated tools (PATs), so you can work in occupied buildings.

NO DRILLING, NO CORD, NO LEW, ONE TOOL – ONE-MAN OPERATION.

- No Licensing Required
- Fast and Easy to Use
- Quiet—No Recoil
- No Cords or Hoses
- Long Fuel Cell & Battery Life

Important to know

For safe operation of Ramset-Pulsa tools, use only those fuel cells and fasteners identified in the operating manual.

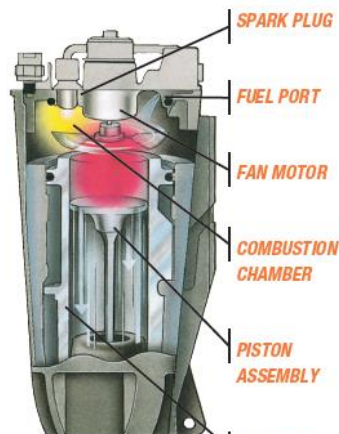


How it works

The Tool

The patented Ramset-Pulsa technology delivers precisely balanced power eliminating the damage caused by overdrive in PATs.

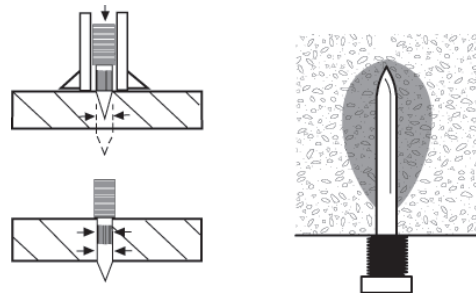
How it works: As the nosepiece is depressed, a rechargeable battery turns on the fan motor. In less than a second: a precise amount of fuel is injected into the combustion chamber. When the trigger is pulled, a spark causes gas expansion by combustion that drives the piston into the fastener, and the fastener in the work surface. The action creates a vacuum that pulls the piston back to the start position.



The Fasteners

FASTENING TO CONCRETE: As the fastener enters the concrete, extreme pressures and heat are created. This creates a bond that provides high loading strength in concrete snugly and provides tool protection.

FASTENING TO STEEL: The resilience of steel provides a clamping effect to the fastener. This combined with the tremendous heat that is created, provides a welding and clamping effect to give maximum holding power.



Inside the TrakFast 800 Tool Case



User Manual

Pin selection guide

Standard Pin Guide

TrakFast 800 tool

Li-ion Battery
(2 nos)

Battery Charger

Safety Glasses

50-pin Magazine
(Sold separately)

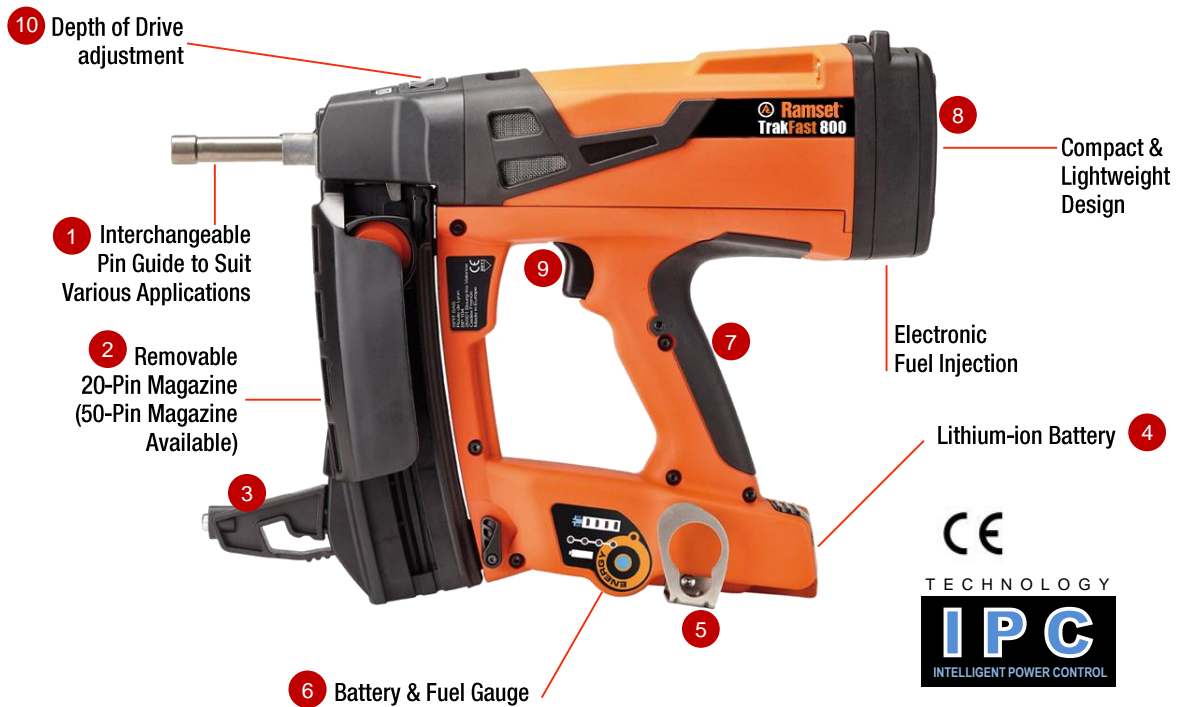
Magnetic Pin Guide
For use with metal
Washers/angle brackets
(Sold separately)

500 x Hard concrete/steel Pins
+ 1 Fuel Cell
(Available in Ramset & Spit brand)

For safety and operation reasons, use only RAMSET/SPIT-compatible fuel cells and pins. RAMSET/SPIT does not license any other company to manufacture fuel cells and pins and can only guarantee the quality and performance of its own, genuine products. RAMSET/SPIT cannot accept responsibility for damage or injury caused by the use of third party fuel cells and pins which are not RAMSET/SPIT-compatible. **IN PARTICULAR, YOUR PRODUCT WARRANTY WILL NOT COVER DAMAGE TO THE TRAKFAST/PULSA 800 CAUSED BY NON-COMPATIBLE PARTS**

TrakFast™ 800

Main Parts and Features



1. Slim and streamlined nosepiece

Remain in contact with base material during shot
Safety feature -- will not fire unless nose is pushed inward

2. Removable Pins Magazine

Locks out tool at 3 pins to prevent blank firing

3. Removable Support Leg

Help to hold the tool at a 90-degree angle to work for correct fastener positioning

4. Fuel Cell & Battery Inlet

5. Belt Hook

6. Battery & Gas Indicator

Check gas & battery levels anytime

7. Handle Cushion

For less fatigue on users

8. Fan Motor and Filter

Prevent over-heating. Prevent entry of dust

9. Trigger

10. Depth of Drive adjustment

Adjust fasteners penetration depth according to the type of application

Technical Data

System Specification

Weight	3.8 kg
Height x Length	309 mm x 396 mm
Magazine Capacity	20 (+3) pin magazine,
Impact Force	100 J
Actuation Pressure	4.5 kg
Overdrive	4 mm
Intermittent Operation	2 pins per second
Fuel Cell Life	600 pins (approx)
Battery Charge Capacity	3,000 pins (approx)
Battery Voltage	3.7 V Lithium-ion
Battery Charge Time	90mins (25mins for 500 fixings)
Power Regulation	Automatic
Operating Temperature Range	-5°C to 49°C

Substrates Concrete, Hard Concrete, Precast Concrete, Steel Pre-stressed Concrete, Reinforced Concrete, Composite Steel Decking, Structural Steel Section, Solid Brick/Block, Hollow Block/Slab, ALC.



Diamond Grade High Performance HC6 drive pins ensure excellent success rates are achieved for fixing into steel, hard and pre-stressed concrete. This helps to eliminate the need for selecting various types of pins for different types of rates/applications. One pin for all applications.

Pins Specification

Raw Material	Carbon Steel
Corrosion Protection	Zinc Mechanically Plated (Min. coating 10µm)
Nominal Head Diameter	6.4 mm
Nominal Shank Diameter	3.0 / 2.7 mm
Shear Strength	1200 N/mm ²
Tensile Strength	1950 N/mm ²
Hardness	53-56 HR _C



2-Hour Fire Resistance to BS476: Part 22.
(Tested at TÜV SÜD PSB)

The TRAKFAST™ system is approved under CSTB no. 3/06-460

Pin Types	HC6 Range					
	HC6-15	HC6-17	*HC6-22	HC6-27	HC6-32	
Length, Lt (mm)	15	17	22	27	32	
Concrete	C20/25 to C60/70 suitable for pre-stressed concrete					

Recommended Loads

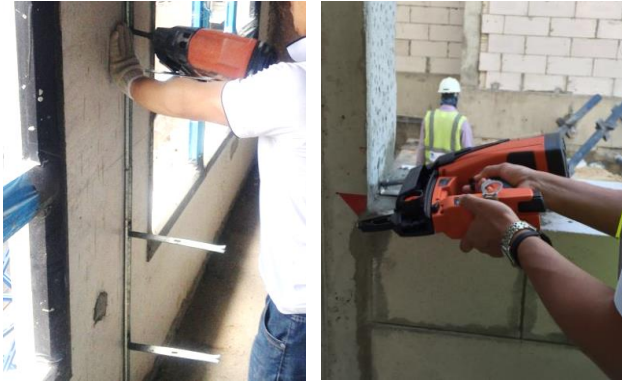
HC6 Range		Characteristic Resistance		Recommended Load	
		N _{rk} (kN)	V _{rk} (kN)	N _{rec} (kN)	V _{rec} (kN)
C20/25 to C60/70 suitable for pre-stressed concrete	H _{nom} = 10 mm	0.34	0.75	0.10	0.25
	H _{nom} = 15 mm	0.87		0.30	
	H _{nom} = 18 mm	1.19		0.40	
	H _{nom} = 20 mm	1.41		0.47	
Steel = 410 - 450 N/mm ²	H _{nom} = 6.5 mm	5.0	3.6	1.5	1.2
Steel = 500 - 550 N/mm ²					

The recommended load is calculated from the characteristic load and a global safety factor equal to 3.
STATIC LOAD ONLY

SS6 Stainless Steel Pin

Stainless Steel Pin for Special Applications

The Ramset™ SS6-19 Stainless Steel Pins has been designed for special applications such as fixing wall tie and bonding bar systems to precast and reinforced concrete columns or walls, that meets HDB Standard Specification requirements Clause 12.4.



Specifications



Raw Material	Stainless Steel Grade 304 (Tested by Setsco)
Nominal Head Diameter	6.4mm
Nominal Shank Diameter	2.6mm
Pull-out Strength	Exceeds 1kN in concrete (Tested by Setsco)

Part No	Description	Length	Order Qty
9A-TRAK-SS619	Stainless Steel Pins SS6-19	19mm	600

10 strip collation (suitable for use in 20 and 50-pin magazines) + 1 x Pulsa 800 Fuel Cell

Ensuring Compliance with HDB Standard Specification

HDB Specifies AISI 304 Stainless Steel Drive Pins with 1kN Pull-out Strength to Fix Wall Tie and Bonding Bar Systems.

The Requirements

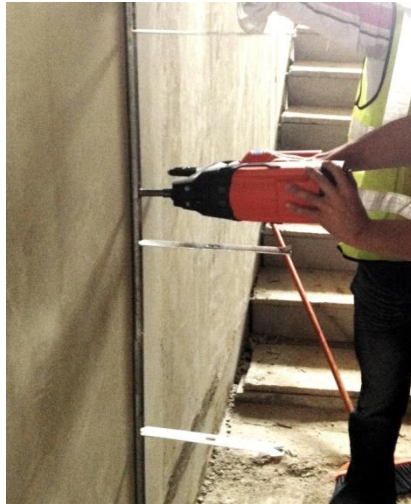
The latest 2016 edition of the HDB Standard Specification, Section 12 “Brickwork and Blockwork” requires that all brick walls and block walls shall be tied to the surface of the reinforced concrete walls or columns by a wall tie system. In addition the brick walls and block walls shall also be laterally restrained at both ends by fastening it to reinforced concrete columns with bonding bar system as specified in Clause 12.4 “Cavity Walls and Brick Cladding”. Clause 12.4 (a) further describes that all wall tie and bonding bar systems shall be fastened with masonry drive pin made of stainless steel AISI Grade 304 to the reinforced concrete column or wall. The masonry drive pin shall have a minimum pull-out strength of 1 kN from the concrete¹.

The Problems

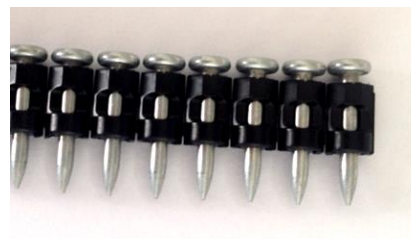
The 200-series grade of stainless steel, over the last couple of years, is gaining popularity in Southeast Asia and especially China, due to the cost which is generally cheaper than the 300-series. Because of the high nickel price in recent years, the demand for such low-nickel or no-nickel grades of stainless steels has doubled this decade.

At the same time however, reducing nickel also reduces the maximum chromium content in the material. Less chromium means less corrosion resistance. It has been well documented that the 200-series grade contains less chromium than grade 304 and consequently show greater susceptibility to all types of corrosion. Pitting corrosion and crevice corrosion are some of such examples. Fasteners and mechanical joints are particularly at risk in this respect and as a result have been corrosion failures and dissatisfied customers.

Since the 200-series grades are also non-magnetic, it is difficult to distinguish between the 200-series against grade 304 stainless steel with the naked eyes. Indeed, there have been cases of fraud and mislabelling².



Bonding bar system typically fastened with gas-tool-driven pins made of AISI 304 grade material



AISI 202 drive pins being used at site. Difficult to distinguish against AISI 304 grade with the naked eyes



Crevice corrosion in stainless steel. Fasteners are at risk

Ensuring Compliance

To ensure compliance to Clause 12.4 (a) of the HDB standard specification, it is recommended that any masonry drive pin for fastening wall tie and bonding bar system to be tested by an accredited laboratory to determine its pull-out strength and also its chemical composition.

Test reports showing compliance with the specifications should be submitted to the relevant authority for approval otherwise the drive pin should not be used. The method of testing pull-out strength should be in accordance with internationally recognized standard such as BS 5080-1: 1993 “Structural fixings in concrete and masonry. Method of test for tensile loading”. The minimum pull-out strength should be 1kN. The chemical composition of the drive pin should be determined from test according to AISI 304 specification to have the composition as indicated in Table 1.

It is imperative that anyone considering using stainless steel drive pin to consult and deal with only highly reputable and knowledgeable suppliers who are able to provide high quality material of known origin, and offer impartial advice. It may also be necessary to insist the supplier to produce mill certificates to ensure that the actual product supplied to the project is consistent, in terms of its chemical composition, with the samples sent for testing prior to the approval from the relevant authority.

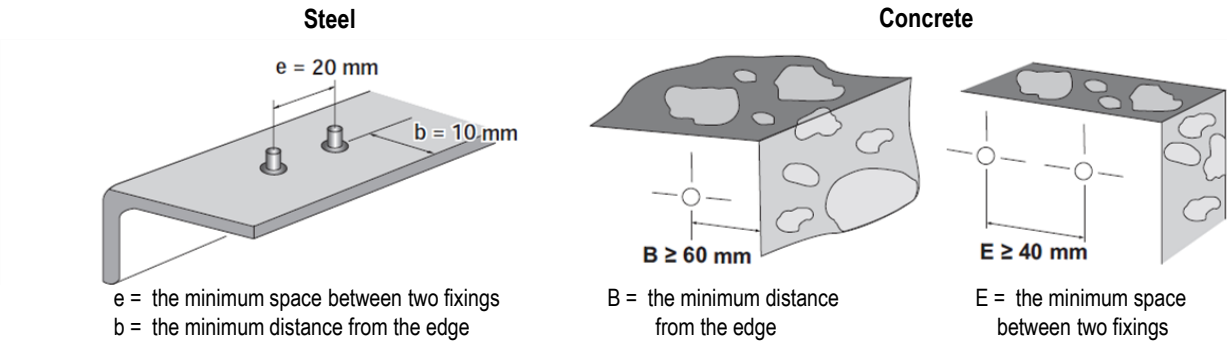
Table 1: Chemical composition of standard stainless steel grades						
Grade		Chemical Composition (wt %)				
AISI	UNS	C	Mn	Cr	Ni	N
201	S20100	0.15 max	5.50 - 7.50	16.0 - 18.0	3.50 - 5.50	0.25 max
202	S20200	0.15 max	7.50 - 10.0	17.0 - 19.0	4.00 - 6.00	0.25 max
205	S20500	0.12 - 0.25	14.0 - 15.5	16.5 - 18.0	1.0 - 1.75	0.32 - 0.40
304	S30400	0.08 max	2.0 max	18.0 - 20.0	8.0 - 10.5	-

¹ Housing & Development Board: Standard Specifications For Building Works And Other Installations (2016 Edition)- Section 12 Brickwork & Blockwork.

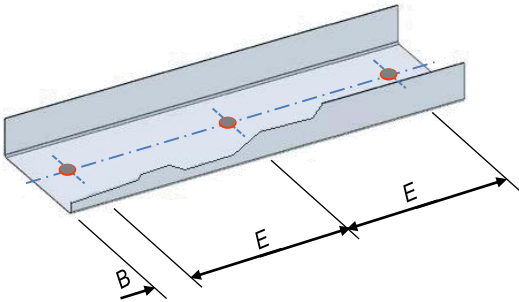
² International Stainless Steel Forum (ISSF): “New 200-series” steels: An opportunity or a threat to the image of stainless steel?

Technical Data

Distance & Spacing Recommendations



Spacing for Track Fixing



For Standard Wall

$E = 600 \text{ mm}$, maximum spacing between two fixings
 $B = 60 \text{ mm}$, maximum distance from the edge



For Fire Rated Wall

$E = 400 \text{ mm}$, maximum spacing between two fixings
 $B = 60 \text{ mm}$, maximum distance from the edge

* Tested up to 2-hour in accordance with BS476: Part 22 by TÜV SÜD PSB. Fasteners shall be Ramset Pulsa800 HC6 Drive Pins.

TrakFast 800 System Advantages

Go Direct! Drive Jobsite Speed

- **40 TIMES FASTER!** than drill & plug.
- **AUTOMATIC FIXING!** 2 fixings per second!
- **NO DRILLING!**
No Dust. Safe Work Process. Quieter.
- **CORDLESS!** Greater mobility. No setting time. No trip hazard!
- **NO SPECIAL LICENSING REQUIRED!**
- **CONSISTENT FIXING QUALITY EVERY TIME!** Does not rely on user's skill or experience.
- **VERY EASY TO USE!** Anyone can perform the task even with no experience.
- **ONE TOOL – ONE-MAN OPERATION!** Over 30% Productivity Improvement plus Man-days Saving.
- **MORE SAVINGS!** Save Thousands of Dollars by Eliminating the needs for the following equipment & consumables:



No Drilling
Required



2-Hour Fire
Resistance



Finish Job Sooner & Save Cost!



SIMPLIFY

From 6 tools to just 1



TrakFast™ 800

Applications

Drywall Contractors



Fixing drywall tracks to concrete & steel

Fire Protection of Steel



Fixing wire mesh to structural steel

Building Contractors



Fixing wall-tie & bonding bar system

Structural Steel Decking Contractors



Fixing structural steel decking sheets on structural steel

Electrical Contractors



Fixing electrical conduit clips & trunking systems

Tunnels



Fixing water-proofing membrane to tunnels

- Fixing of Drywall Tracks • Fixing of Ceiling Hangers • Fixing Timber Battens • Direct Fixing into Steel Structures • Steel Lathing Mesh Fixing • Water Proofing Membrane Fixing • Wall tie Fixing • Bonding Bar Fixing • Doors & Windows Frame Fixing • Bondek Fixing
- Fixing of Conduit Clips (Full saddle & half saddle) • Plastic Conduit Clips • Cable Management • Trunking System • Junction Box • Carpark Guidance System • CCTV System • Fire Alarm System • Lighting System • Light-Weight Hanging of Services

Features and Benefits

CORDLESS, SELF-POWERED



Convenience

- Mobility
- No electrical source required

TELESCOPIC NOSE



Ease of Use

- Minimal effort needed and works better in tight fixing areas

REAR LOAD MAGAZINE



Greater pin load capacity

- Load up to 20+3 pins
- Cycle rate: 2 pins/second

POWERFUL HAMMERING MECHANISM



High Performance

- Able to drive pins with length from 15mm to 40mm
- Driving force: 100J
- Harden Steel of drive pins with ballistic sharp pointed tip for good penetration

LOCK-OUT FEATURE



Safety

- Lock out the last 3 pins to prevent firing and preserve tool life

LITHIUM BATTERY



- Fast Charge, Long Life

BATTERY & FUEL GAUGE



Avoid tool downtime

- The combined battery & fuel cell gauge allows the condition of both the fuel cell and the battery to be checked at the same time.
- This innovative system greatly reduces the possibility of un-expectedly running out of gas or battery power.

Project Reference

Burj Al-Arab, Dubai
Emirates Towers – Hotel and Offices, Dubai
Ritz Carlton Hotel, Qatar
Burj Khalifa (Spire), Dubai
Project Jewel @ Changi Airport
New State Courts Complex
Merdeka PNB 118 (KL 118), Kuala Lumpur
Sapura Energy, Malaysia
Metro Manila Skyway Project
Mumbai Expo, India
Floridian Condominium
REC @ Tuas South Ave 14
HDB Centre
Reflection Condominium
Hill Vista Condominium
Ren Ci Hospital
Ion Orchard
Resort World at Sentosa
ITE West
Rolls Royce @ Seletar
Khoo Teck Puat Hospital
SAR-X/DIP SPT @ Jurong Island
Labrador Sub-Station
Sengkang N4 C3
Livia Condominium
SPOX @ Jurong Island
Mandarin Hotel
Standard Chemical Corp
Marina Bay Financial Centre
St. Andrew School
Marina Bay Sands Integrated Resort
St. Gabriel Primary School
Mayflower Secondary School
ST MicroElectronics Building
Methodist Girl School
Tiong Bahru Market
Ministry of Home Affairs, MHA
Trizon Condo - Ridgewood Close
MRT Depot
West Spring Secondary School
National Library, NLB
Wilby Central @ Queen Street
NTU
Woodlands Civic Centre
One Amber Condominium
313 @ Somerset
N8C26, Tampines St 84 beside Blk 870
N2C9, Pasir Ris Dr 4 beside Blk 213
N2C40, Sengkang Central beside Buangkok MRT
Parkland Residences @ Upper Serangoon Road
PWC 20, Punggol Way/Punggol Walk
Sengkang East Road (Qing Jian)
Subordinate Court
29 Woodlands Industrial Park E1

Note: The above project reference list is not exhaustive. More up-to-date projects can be provided upon request.

User's Operating Instructions

METHOD STATEMENT FOR THE USE OF RAMSET GAS TOOL

Before using the TrakFast 800:

1. User should obtain competent personal instruction and read all safety rules and understand all the instructions in the Instruction Manual for safe operation of the tool.
2. User must wear approved eye protection.
3. Check the local environment is safe for the use of gas actuated tools, ie. free from inflammable gases, explosive materials etc.
4. Visual check to ensure that the tool does not have damages or cracks on its plastic or metal parts, (eg. The magazine housing, telescopic nose etc.)
5. Use only the pins and gas cartridge that is approved by the manufacturer.
6. Engage the Technical Specialist of the product to conduct a briefing cum demonstration of the TrakFast to ensure user's competency of handling the tool.

When using the TrakFast:

7. When installing the fuel cell, please follow the procedures:-
 - a. Remove the protective cap from the top of the fuel cell.
 - b. Insert the fuel cell into the tool until an audible 'click' is heard.
8. When installing the Drive Pins, please follow the procedures:-
 - a. Hold the tool so that the magazine pointed upwards.
 - b. Pull the magazine slider all the way back until it lock into place.
 - c. Insert the Ramset collated drive pins into the magazine.
 - d. Release the magazine slider by pushing the orange button on the magazine slider.
9. Insert the battery all the way into the tool. The battery and fuel cell LED's should illuminate.
 - a. The battery and fuel gauge will automatically display the levels of both for a few seconds.
 - b. If a fuel cell is not present the fuel gauge LED will flash red.
10. To fire the pins onto the base material, please follow the procedures:-
 - a. Place the fastener guide (tool nose piece) against the base material you want to fasten and apply pressure on the tool towards the surface.
 - b. Pull the trigger.
 - c. To allow proper cooling of the tool, avoid placing hand over filters during use. This obstructs the filters.

After using the TrakFast:

11. Remove the battery from the tool when not in use.
12. Release the magazine slider and remove any remaining pins
13. The gas cartridge can be left in the housing since frequent removal of the gas cartridge will result in unnecessary lost of the gas content. To remove the fuel cell, press the "FUEL EJECT" button.
14. Clean the tool of any dust or debris before storing. When not in use, the TrakFast tool should be placed in its box or case.
15. Also, it is recommended to send TrakFast for regular maintenance by Ramset repair specialist.

Risk Assessment Form

Severity	Description	Likelihood	Description
Minor	No injury, injury or ill-health requiring first aid treatment only (including minor cuts and bruises, irritation, ill-health with temporary discomfort)	Remote	Not likely to occur
Moderate	Injury requiring medical treatment or ill-health leading to disability (including lacerations, burns, sprains, minor fractures, dermatitis, deafness, work-related upper limb disorders)	Occasional	Possible or known to occur
Major	Fatal, serious injury or life-threatening occupational disease (including amputations, major fractures, multiple injuries, occupational cancer, acute poisoning, and fatal diseases)	Frequent	Common or repeating occurrence

Risk Level	Acceptability of Risk	Recommended Actions
Low Risk	Acceptable	No additional risk control measures may be needed. However, frequent review may be needed to ensure that the risk level assigned is accurate and does not increase over time.
Medium Risk	Moderately Acceptable	A careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as is practicable within a defined time period. Interim risk control measures, such as administrative controls, maybe implemented. Management attention is required
High Risk	Not Acceptable	High risk level must be reduced to at least Medium Risk before work commences. There should not be any interim risk control measures and risk control measures should not be overly dependent on personal protective equipment or immediate management intervention is required before work commences.

Severity \ Likelihood	Remote (R=1)	Occasional (O=2)	Frequent (F=3)
Major (Ma=3)	M (3)	H (6)	H (9)
Moderate (Mo=2)	L (2)	M (4)	H (9)
Minor (Mi=1)	L (1)	L (2)	M (3)

H = High Risk
M = Medium Risk
L = Low Risk

Date prepared: January 5, 2010

Risk Assessment Form

1. Hazard Identification		2. Risk Evaluation			3. Risk Control				
1a	1b	1c	1d	2a	2b	2c	2d	3a	3b
No.	Work Activity	Hazard	Possible Accident / Ill Health & Persons-at-Risk	Existing Risk Control (if any)	Severity	Likelihood	Risk Level	Additional Risk Control	Action Officer, Designation
1.	Use of the Ramset GAT Tool System	Worker falling down due to impact. Concrete spark hit worker's eye. Tool used by untrained worker. Worker did not follow instructions.	Injury to workers. Pain or discomfort.	<p>The Worker operating the power tool must obtain an "Operator's Pass" through training.</p> <ol style="list-style-type: none"> Never use the tool unless the worker has received the proper instruction from the supervisor / manufacturer The operator must wear appropriate eye wear & helmet when using the tool. Wear ear protection when in confined area. No tool shall be used for any purpose other than that for which it was made, adapted or intended. Tool shall be used for driving nails into concrete, brick wall and structural steel beam only. Always hold tool perpendicular to work surfaces and base materials when fastening. Keep arms flexed when operating tool. Don't stiffen arm. Ensure that no one stands behind / below the location when making fastenings. 	2	1	2	<p>Work Supervisor / Foreman should ensure that trained operators are strictly following the instruction and safety information provided by the manufacturer.</p> <p>Tools should be maintained every 3 years by the vendor.</p>	Site Manager / Site Supervisor

Risk Assessment Form

1. Hazard Identification		2. Risk Evaluation			3. Risk Control				
1a	1b	1c	1d	2a	2b	2c	2d	3a	3b
No.	Work Activity	Hazard	Possible Accident / Ill Health & Persons-at-Risk	Existing Risk Control (if any)	Severity	Likelihood	Risk Level	Additional Risk Control	Action Officer, Designation
1.	Use of the Ramset GAT Tool System	Worker falling down due to impact. Concrete spark hit worker's eye. Tool used by untrained worker. Worker did not follow instructions.	Injury to workers. Pain or discomfort.	<p>5. Tool shall not be used too close to the edge of any substance</p> <p>6. Do not attempt to carry out any unauthorized repair which may cause the tool to malfunction. No persons, other than an authorized person shall repair a tool.</p> <p>7. Never point the tool at yourself or at people around you.</p> <p>8. Never leave a loaded tool unattended. Always unload the tool before any cleaning and maintenance is to be carried out.</p> <p>9. Do not transport the tool with your finger on the trigger</p> <p>10. Never press the tool nozzle (firing point) against your hand or any other part of your body.</p>	2	1	2	<p>Work Supervisor should observe the relevant national regulation and should follow-up to prevent accident.</p> <p>Site Supervisor to ensure and carryout site check</p> <p>Work Supervisor should observe the relevant national regulation and should follow-up to prevent accident.</p>	Site Manager / Site Supervisor

Risk Assessment Form

1. Hazard Identification		2. Risk Evaluation			3. Risk Control				
1a	1b	1c	1d	2a	2b	2c	2d	3a	3b
No.	Work Activity	Hazard	Possible Accident / Ill Health & Persons-at-Risk	Existing Risk Control (if any)	Severity	Likelihood	Risk Level	Additional Risk Control	Action Officer, Designation
1.	Use of the Ramset GAT Tool System	Worker falling down due to impact. Concrete spark hit worker's eye. Tool used by untrained worker. Worker did not follow instructions.	Injury to workers. Pain or discomfort.	11. Protect the gas cartridge against temperatures above 50°C. Keep the gas cartridge away from flames, sparks and extreme heat. Do not refill the gas cartridge. Dispose the empty cartridges in proper manner in accordance to the site requirement. 12. Avoid using the tool in rainy or excessively humid conditions. 13. For additional safety precaution, remove the battery immediately from the tool when it is no longer in use. 14. Never operate the tool that has malfunctioned, is damaged, or has loose parts. 15. The tool must be sent for regular maintenance and services by the manufacturer's authorized personnel at least once in every 6 months.	2	1	2	Work Supervisor should carry out regular inspection and instruct the operator to carry out maintenance when necessary Site Supervisor should ensure and carry out site check Site manager should ensure all records are kept in order and are up to date	Site Manager / Site Supervisor

Risk Assessment Form

1. Hazard Identification				2. Risk Evaluation				3. Risk Control	
1a	1b	1c	1d	2a	2b	2c	2d	3a	3b
No.	Work Activity	Hazard	Possible Accident / Ill Health & Person-at-Risk	Existing Risk Control (if any)	Severity	Likelihood	Risk Level	Additional Risk Control	Action Officer, Designation
1.	Use of the Ramset GAT Tool System	Worker falling down due to impact. Concrete spark hit worker's eye. Tool used by untrained worker. Worker did not follow instructions.	Injury to workers. Pain or discomfort.	16. No tool shall be used unless: (a) it is of good construction, sound materials and adequate strength and free from defect; (b) a projectile cannot be discharged from it if it is dropped onto a surface from a height of 3 meters or more; (c) it cannot be discharged accidentally while being handled. 17. Maintain a record of the type and serial number of every tool in the workplace and the name and address of each of the respective owners and user of the tool. 18. No pins or gas cartridges shall be used with a tool unless it is of the same brand so as to comply with the specification of the manufacturer of the tool. 19. Always keep the tool, pins and gas cartridges locked in the tool box and kept in a safe place, controlled by safety supervisor. 20. Always use this tool in strict accordance with the safe work practice and operation instruction.	2	1	2	Work Supervisor should keep a record for tool issue to operators and to prepare safe work practice to use explosive tools.	Site Manager / Site Supervisor

TrakFast 800 Classification By the Ministry of Manpower

Lai Boon Keong

From: Charles TAN (MOM) [Charles_TAN@mom.gov.sg]
Sent: Wednesday, November 06, 2013 5:24 PM
To: bklai@itwcpsea.com
Cc: Yucheng LEI (MOM); Theresa LIEW (MOM)
Subject: Gas Actuated Tool, New Model.

Dear Mr Boon Keong,

We refer to your email dated 1/11/13 regarding your tools named Ramset TrakFast 800 and Ramset CableMaster 800.

2. Please be informed that the gas actuated power tools mentioned above are not deemed as explosive powered tools under the WSH (Explosive powered tools) Regulations as they are not actuated by an explosive.

3. Notwithstanding the above, you are reminded of the duties of any person who supplies any machinery, equipment or hazardous substance under the Workplace Safety and Health Act (WSHA) to ensure, so far as is reasonably practicable –

- (a) that the following information about the safe use of the machinery, equipment or hazardous substance is available to any person to whom the machinery, equipment or hazardous substance is supplied for use at work:
 - (i) the precautions (if any) to be taken for the proper use and maintenance of the machinery, equipment or hazardous substance;
 - (ii) the health hazards (if any) associated with the machinery, equipment or hazardous substance; and
 - (iii) the information relating to and the results of any examinations or tests of the machinery, equipment or hazardous substance under paragraph (c) that are relevant to its safe use;
- (b) that the machinery, equipment or hazardous substance is safe, and without risk to health, when properly used;
- (c) that the machinery, equipment or hazardous substance is examined and tested so as to comply with the obligation imposed by paragraph (b).

3. Please note that we do not provide such letters stating the above anymore.

4. Please feel free to contact me if you have need further clarifications.


Thank you.

Regards,

Charles Tan
Associate Specialist (Engineering Safety Branch)
OSH Specialists Department

Occupational Safety and Health Division . Ministry of Manpower . Tel (65) 6692 5081 . Fax (65) 6535 6726 . <http://www.mom.gov.sg>

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1

SETSCO Test Report



SETSCO SERVICES PTE LTD

18 Teban Gardens Crescent
Singapore 608925
Tel : (65) 6566 7777
Fax: (65) 6566 7718
Website: www.setsco.com
Business Reg. No. 196900269D

Page 1 of 2
Date : 26/02/2008

TEST REPORT

(This Report is issued subject to the terms & conditions set out below)

Your Ref : Endorsed Quotation Ref: 10904-CQ

Our Ref : ST - 4014/1

Subject : Tensile Pull-Out Testing of Nails (Ramset HC6-22) set into the concrete cubes of grade 40 using the Trakmaster tool set as requested by ITW Asia (Pte) Ltd.

Tested For : ITW Asia (Pte) Ltd
8, Kaki Bukit Road 2
#02-34, Ruby Warehouse Complex
Singapore 417841
Attn : Mr. Siang Peng Lam

Test Location : Setsco Lab

Date of Test : 25th February 2008

Sample Description : A total of five (05) pieces of nails (Ramset HC6-22) were 'fired' into the concrete cube and tested. They were referenced as S1 to S5.

Method of Test : Tension Load Test
The test sample (nails) was 'fired' into the concrete cube through a holder using Trakmaster tool set. The test specimen was then placed on the Tensile Machine and the cube held down by a test fixture. Tension load was then applied gradually until failure occurs. The maximum load applied was recorded and the mode of failure noted.

Refer to the table on page 2 for test results.

ST-4014/1(Tensileloading)/TWAsia/iancy

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SETSCO Test Report



ST - 4014/1

Page 2 of 2

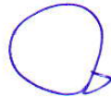
Results : **Tensile (Pull-Out) Test on Ramset HC6-22 Nails**

Sample Ref.	Fixing Type	Embedded Length (mm)	Applied Tensile Load (kN)	Observation after test
S1	Ramset HC6-22 Nails	15.5	2.89	Concrete failure
S2		15.2	4.07	
S3		18.1	1.67	
S4		16.1	2.95	
S5		16.9	1.72	

Witness (es) :

Mr. Siang Peng Lam (ITW Asia (Pte) Ltd)

Test conducted by : Lim Bee Teck 



HOW YONG MENG
Principal Engineer
Structural Engineering Dept.
Construction Technology Division

ST-4014/1(Tensileloading)ITWAsia/nancy

SETSCO Test Report



ANNEX 1

ST-4014/1

Photo
1/1



test ref: S1



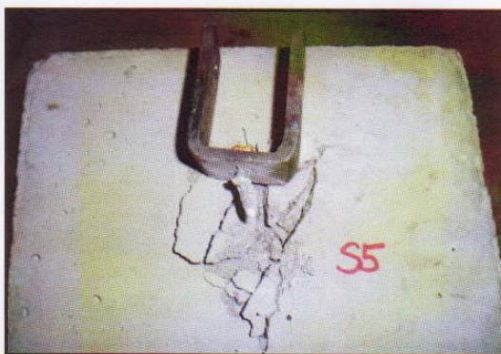
test ref: S2



test ref: S3



test ref: S4



test ref: S5

Q

LM

SETSCO Test Report (SS6-19)



SETSCO SERVICES PTE LTD

18 Teban Gardens Crescent
Singapore 608925
Tel : (65) 6566 7777
Fax: (65) 6566 7718
Website: www.setsco.com
Business Reg. No. 196900269D

Page : 1 of 2

Date : 19/10/2012

TEST REPORT

(This Report is issued subject to the terms & conditions set out below)

Your Ref. : Endorsed Sales Quotation No.28250 - CQ

Our Ref. : ST - 11082

Subject : Tensile Proof Load Testing on 19mm stainless drive pin installed into the G30* & G40* concrete block as requested by ITW Construction Products (SEA) Pte Ltd.

Tested For : **ITW CONSTRUCTION PRODUCTS (SEA) PTE LTD**
4, Changi South Lane
#06-01 Nan Wah Building
Singapore 486127
Attn. : Mr. Tham Kin Choong

Project Reference : 4, Changi South Lane

Date of Test : 16th October 2012

Sample Description : A total of Four (04) nos. of 19mm stainless steel drive pins installed were selected by the client for the test. The installation of the stainless steel drive pins was undertaken by the contractor on site.

Method of Test : **Adopted from BS 5080 : Part 1 : 1993 ****
Load was applied axially to the installed 19mm stainless steel drive pins by a centre-pull hydraulic jack system to the ultimate load as requested by the client. The maximum load applied shall then be recorded and the mode of failure noted.

***' - infomation provided by the client.*

*Note :- *** (1) No displacement measurements were taken during the course of loading.*

Refer to the table on page 2 for test results.

Mike

ST-11082 (+DrivePin) ITW/linda

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SETSCO Test Report (SS6-19)



ST - 11082

Page 2 of 2

Results : **Table : Tensile Load Test on 19mm Stainless Steel Drive Pin**

Sample Ref.	Test Member	Fixing Type	Applied Tensile Load (kN)	Observation After Test
T1	G30 Concrete Block*	19mm Stainless Drive Pin	1.3	Concrete Failure
T2			1.9	
T3	G40 Concrete Block*		3.0	Concrete Failure
T4			1.9	

*' - Information provided by the client.

Witness(es) :

K. C. Tham ((ITW)

Test Conducted By: *Michael*
Michael Gurusamy

HOW YONG MENG
Principal Engineer
Structural & Integrity Testing Dept.
Construction Technology Division

ST-11082 (4-DrivePin) ITW/linda



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DIVISION: 04 00 00—MASONRY
SECTION: 04 05 19.16—MASONRY ANCHORS
DIVISION: 05 00 00—METALS
SECTION: 05 05 23—METAL FASTENINGS

REPORT HOLDER:

ITW RAMSET

700 HIGH GROVE BOULEVARD
GLENDALE HEIGHTS, ILLINOIS 60139

EVALUATION SUBJECT:

TRAKFAST FASTENERS



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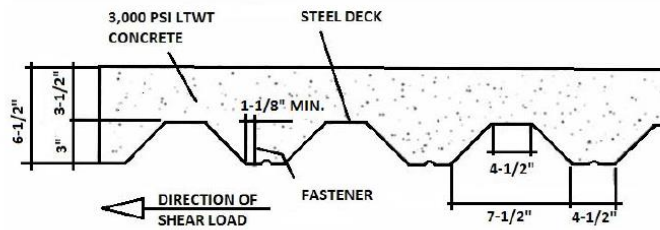
TABLE 4—ALLOWABLE TENSION AND SHEAR VALUES FOR TRAKFAST FASTENERS INSTALLED IN ASTM A36 STEEL

FASTENER PART NUMBER	SHANK DIAMETER (inch)	MINIMUM SPACING (inch)	MINIMUM EDGE DISTANCE (inch)	STEEL THICKNESS (inch)					
				^{3/16} 4.8mm		^{1/4} 6 mm		^{3/8} 9.5 mm	
				Tension (lbf)	Shear (lbf)	Tension (lbf)	Shear (lbf)	Tension (lbf)	Shear (lbf)
HC6-15 → FPP012	0.109	1	1/2	195	292	223	278	181	186

For SI: 1 lbf = 4.448 N, 1 inch = 25.4 mm.

¹Fasteners installed in ^{3/16}- and ^{1/4}-inch-thick steel must penetrate the steel such that the shank pierces the steel and protrudes 0.16 and 0.10 inch, respectively.

²Fasteners must have 0.32-inch fastener penetration when installed into ^{3/8}-inch-thick steel.



SECTION – COMPOSITE DECK – NO SCALE

For SI: 1 inch = 25.4 mm.

FIGURE 1—TRAKFAST FASTENER INSTALLATION LOCATION IN COMPOSITE DECK



SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 453/2010)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : P800(011773)/P700(035420)/IM350CT(011780)/IM90(010811)
Product code : CARTOUCHES_DE_GAZ.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Used for internal combustion fastener driving tools.

1.3. Details of the supplier of the safety data sheet

Registered company name : SPIT PASLODE.
Address : 150, route de Lyon.26500.BOURG LES VALENCE.France.
Telephone : 0 810 102 102. Fax : 0 810 432 432.
Email : msds-reach@spit.com
<http://www.spit.fr>

1.4. Emergency telephone number : 112.

Association/Organisation : European emergency number.

Other emergency numbers

UK National Poisons Emergency number: 0870 600 6266
http://echa.europa.eu/help/nationalhelp_contact_en.asp

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Extremely flammable (F+, R 12).

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

Mixture for aerosol application.

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Hazard symbols :



Extremely flammable

Risk phrase :

R 12 Extremely flammable.

Safety phrase :

S 16 Keep away from sources of ignition - No smoking.

S 2 Keep out of the reach of children.

S 46 If swallowed, seek medical advice immediately and show this container or label.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material.

S 51 Use only in well-ventilated areas.

2.3. Other hazards

No data available.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

No substances fulfil the criteria set forth in annexe II section A of the REACH regulation (EC) n° 1907/2006.

3.2. Mixtures**Composition :**

Identification	(EC) 1272/2008	67/548/EEC	Note	%
INDEX: 601-011-00-9	GHS02, GHS04	F+	[1]	15 <= x % < 50
CAS: 115-07-1	Dgr	F+;R12		
EC: 204-062-1	Flam. Gas 1, H220			
PROPENE				

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures**In the event of exposure by inhalation :**

In the event of inhalation, move patient to the open air. Keep warm and at rest.

If breathing is irregular or has stopped, proceed with artificial respiration and seek medical attention.

In the event of splashes or contact with eyes :

Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open.

In the event of swallowing :

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Seek medical attention, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

4.2. Most important symptoms and effects, both acute and delayed

No data available.

4.3. Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Flammable.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- water with AFFF (Aqueous Film Forming Foam) additive
- halon
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO₂)

Prevent the effluent of fire-fighting measures from entering drains or waterways.

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous

insulating breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For fire-fighters

Fire-fighters will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Ensure that there is adequate ventilation, especially in confined areas.

Fire prevention :

Handle in well-ventilated areas.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Do not spray on a naked flame or any incandescent material.

Do not pierce or burn, even after use.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors should be electrically conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Do not breathe in aerosols.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep out of reach of children.

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight

Avoid accumulation of electrostatic charges.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
115-07-1	500 ppm	-	-	-	-

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.
 Store personal protective equipment in a clean place, away from the work area.
 Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.
 Use eye protectors designed to protect against liquid splashes
 Before handling, wear safety goggles in accordance with standard EN166.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.
 Type of gloves recommended :
 - Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
 - PVA (Polyvinyl alcohol)

- Body protection

Work clothing worn by personnel shall be laundered regularly.
 After contact with the product, all parts of the body that have been soiled must be washed.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	fluid liquid.
	spray.

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	0 °C.
Vapour pressure (50°C) :	Below 110 kPa (1.10 bar).
Density :	< 1
Water solubility :	Insoluble.
Self-ignition temperature :	455 °C.
Chemical combustion heat :	not specified.
Inflammation time :	not specified.
Deflagration density :	not specified.
Inflammation distance :	not specified.
Flame height :	not specified.
Flame duration :	not specified.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- heating
- heat

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Splashes in the eyes may cause irritation and reversible damage

11.1.1. Substances

No toxicological data available for the substances.

11.1.2. Mixture

No toxicological data available for the mixture.

Monograph(s) from the IARC (International Agency for Research on Cancer) :

CAS 115-07-1 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Substances

No aquatic toxicity data available for the substances.

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK) :

Nicht wassergefährdend (VwVwS vom 27/07/2005, KBws) : Not hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.
Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2013 - IMDG 2012 - ICAO/IATA 2013).

14.1. UN number

1950

14.2. UN proper shipping name

UN1950=AEROSOLS, flammable

14.3. Transport hazard class(es)

- Classification :



2.1

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	2	5F	-	2.1	-	1 L	190 327 344 625	E0	2	D
IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ			
	2.1	See SP63	-	SP277	F-D,S-U	63 190 277 327 344 959	E0			
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	2.1	-	-	203	75 kg	203	150 kg	A145 A167 A145 A167 A802	E0	
	2.1	-	-	Y203	30 kg G	-	-	A145 A167 A802	E0	

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Particular provisions :**

No data available.

- German regulations concerning the classification of hazards for water (WGK) :

Germany : Nicht wassergefährdend (VwVwS vom 27/07/2005, KBws)

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Title for H, EUH and R indications mentioned in section 3 :

H220	Extremely flammable gas.
R 12	Extremely flammable.

Abbreviations :

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

Safety Instructions



Not following the safety precautions may cause injury to yourself or others. Strictly follow the safety precautions.

<p>1</p>  <p>Never allow anyone to use the tool unless the operator have read and understood all the safety instructions.</p>	<p>2</p>  <p>Wear hearing protection equipment and safety glasses for eye protection.</p>	<p>3</p>  <p>Only use the tool for its intended purpose and on material to be nailed down.</p>
<p>4</p>  <p>Hold the tool firmly and perpendicular against the surface.</p>	<p>5</p>  <p>Never operate tool that is malfunction, damaged or loose parts.</p>	<p>6</p>  <p>Do not attempt to carry out any unauthorized repair which will void the product warranty.</p>
<p>7</p>  <p>This is not a toy. Never point it at people.</p>	<p>8</p>  <p>Always assume that the tool is loaded.</p>	<p>9</p>  <p>Never transport the tool with your finger on the trigger.</p>
<p>10</p>  <p>Do not place hand at the firing point.</p>	<p>11</p>  <p>When sending for servicing, remove the gas cartridge, battery and pins from the magazine.</p>	<p>12</p>  <p>Warning: The contents of the gas cartridge are flammable.</p>

<p>13</p>  <p>Protect gas cartridge from temperatures above 50°C (sunlight).</p>	<p>14</p>  <p>Do not open, puncture or burn the cartridge.</p>	<p>15</p>  <p>Keep the cartridge away from flames, sparks and heat. Do not spray near flames or incandescent objects.</p>
<p>16</p>  <p>The gas cartridge cannot be recharged. Do not attempt to fill or recycle it.</p>	<p>17</p>  <p>Dispose empty cartridges in proper manner.</p>	<p>18</p>  <p>Keep tool, gas cartridges and battery away from children.</p>
<p>19</p>  <p>Only use the tool in well-ventilated areas. Store the gas cartridges in a well-ventilated place.</p>	<p>20</p>  <p>Avoid using the tool in rainy or excessively humid conditions.</p>	<p>21</p>  <p>For safety reasons, remove battery from tool when not in use.</p>
<p>22</p>  <p>Keep tool clean and place in tool box.</p>	<p>23</p>  <p>EN792-13 European Safety Standard</p> <p>EN792-13 European Safety Standard</p>	

For safety and operation reasons, use only RAMSET/SPIT-compatible cartridges and pins. RAMSET/SPIT does not license any other company to manufacture cartridges and pins and can only guarantee the quality and performance of its own, genuine products. RAMSET/SPIT cannot accept responsibility for damage or injury caused by the use of third party cartridges and pins which are not RAMSET/SPIT-compatible. **IN PARTICULAR, YOUR PRODUCT WARRANTY WILL NOT COVER DAMAGE TO THE TRAKMASTER/PULSA 700 CAUSED BY NON-COMPATIBLE PARTS.**

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Operator Signature



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