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# CARPENTER & PATERSON

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Pipe Support Solutions Worldwide



# INTRODUCTION TO CPA

## CARPENTER & PATERSON (ASIA) LTD

Carpenter & Paterson (Asia) Ltd ('CPA') is a leading global specialist in the design and manufacture of pipe suspension equipment and fabricated steelwork.

Part of the Carpenter & Paterson Group, CPA is a wholly owned subsidiary of Carpenter & Paterson Ltd, UK, which boasts more than 60 years' experience in the pipe supports industry. The other subsidiary in the group is Carpenter and Paterson India PVT Ltd.

CPA, strategically located in Asia with expert Western know-how, designs and quality standards, offers extremely competitive and high quality engineered pipe support solutions to customers across the globe.

CPA exports 95% of its products and serves a range of industries worldwide.

### INDUSTRIES WE SERVE

- OIL & GAS
- POWER GENERATION
- PETROCHEMICAL
- LNG
- RENEWABLES
- INDUSTRIAL PROCESSING
- WATER
- PULP AND PAPER
- PHARMACEUTICAL

## CPA PRODUCT RANGE

### VARIABLE & CONSTANT EFFORT SPRING SUPPORTS



#### LV - 'LOCKING VARIABLE' SPRING SUPPORTS

- Feature multilock locking rods.
- Locking rods can be stowed on the side of the spring can during operation.
- Several support configurations available.



#### AV - 'ASIAN VARIABLE' SPRING SUPPORTS

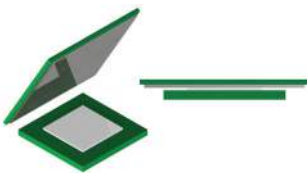
- Robust and compact design.
- Fully enclosed spring can.
- Final assembly does not require welding.
- Several support configurations available.



#### CONSTANT EFFORT SPRING SUPPORTS

- Constant supporting effort throughout the total travel of the unit.
- Feature multilock locking rods.
- Robust and compact design.
- Fully enclosed spring can.
- Several support configurations available.

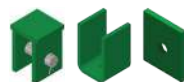
### SLIDING SUPPORTS



- Extremely low coefficient of friction – stainless steel plate slides easily against the PTFE material.
- Simplistic design – ease of installation.
- Coefficient of friction remains constant.
- Bearings are maintenance free; self-lubricating and dirt particles are absorbed into the material.
- Available as bonded or recessed.

### ANCILLARIES

- CPA's extensive range of ancillary equipment is split into four sub categories:



Beam attachments



Pipe attachments



Rods and connectors



Steelwork items

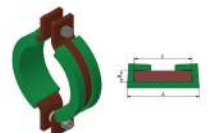
### WITCHLINER ISOLATION MATERIAL



#### INSULATED PIPE CLAMPS / SADDLES / U-BOLTS / U-STRAPS

- Prevents bimetallic corrosion.
- Greatly reduces noise and vibration.
- Resistant to chemicals, acids, oils, greases, etc.
- Resistant to tear, abrasion, ozone, weathering, fire.

#### CLAMP STRIPS



## DYNAMIC RESTRAINTS & SHOCK ABSORBERS



### HYDRAULIC SNUBBERS

CPA's snubber incorporates the highly effective 'through rod' design:

- No need for external reservoir.
- Strong/robust design.
- Small diameter.
- Installation in any orientation.
- Highly reliable performance.



### VISCOELASTIC DAMPERS

- Effective vibration control device which protects the piping system.
- Designed to dissipate and dampen vibrations caused by dynamic events by converting kinetic energy to heat.
- Engineered to suit a wide range of vibration frequencies.
- Robust and compact design.



### RIGID STRUTS

- Available in loads up to 1,000 Kn (101,971kg).



### STIFF CLAMPS



### FRICTION PENDULUMS

- Advanced seismic isolators that protect structures by dissipating earthquake forces.
- Sliding motion between stainless steel and Technoslide® ensures controlled energy dissipation.
- Supports heavy vertical loads while accommodating significant horizontal displacement.

## PRE-INSULATED PIPE SUPPORTS



### COLD SHOES ('CRYOGENIC SUPPORTS')

- Pre-insulated shoes incorporating High Density Polyurethane Foam (HD PUF).
- Highly effective load bearing cryogenic insulation medium.
- Compact and robust design.
- Independent testing of thermal conductivity, density, compressive strength.
- Entire support manufacture at our premises ensuring 100% production control.



### HOT SHOES

- Pre-insulated shoes possessing high compressive strength and low thermal conductivity.
- Supports heavy load pipe systems up to 650°C.
- Highly effective energy saving (and therefore cost saving) device.

## CPA SERVICES

### ■ PIPE SUPPORT DESIGN (AND 'WITCH-HANGER' SOFTWARE)

CPA utilises its own proprietary state-of-the-art 'WITCH-HANGER' pipe support design software. Witch-Hanger, available free of charge to customers, creates 2D models of engineered products. It can be linked to most CAD systems and integrated as 3D representations into plant modeling software packages (e.g. PDMS and SP3D).

### ■ PIPE STRESS ANALYSIS

CPA can provide a full and comprehensive Pipe Stress Analysis service on an ad-hoc basis if required.

### ■ SITE INSPECTIONS AND SURVEYS

CPA offers a comprehensive site inspections and surveys of pipe supports/piping systems as well as supervision of installation, maintenance, testing, repair and provision of training.

## QUALITY, ENVIRONMENT & OCCUPATIONAL H&S

CPA is certified to ISO 9001, 14001 and 45001 - thus ensuring the implementation of effective quality, environmental and occupational H&S management systems.





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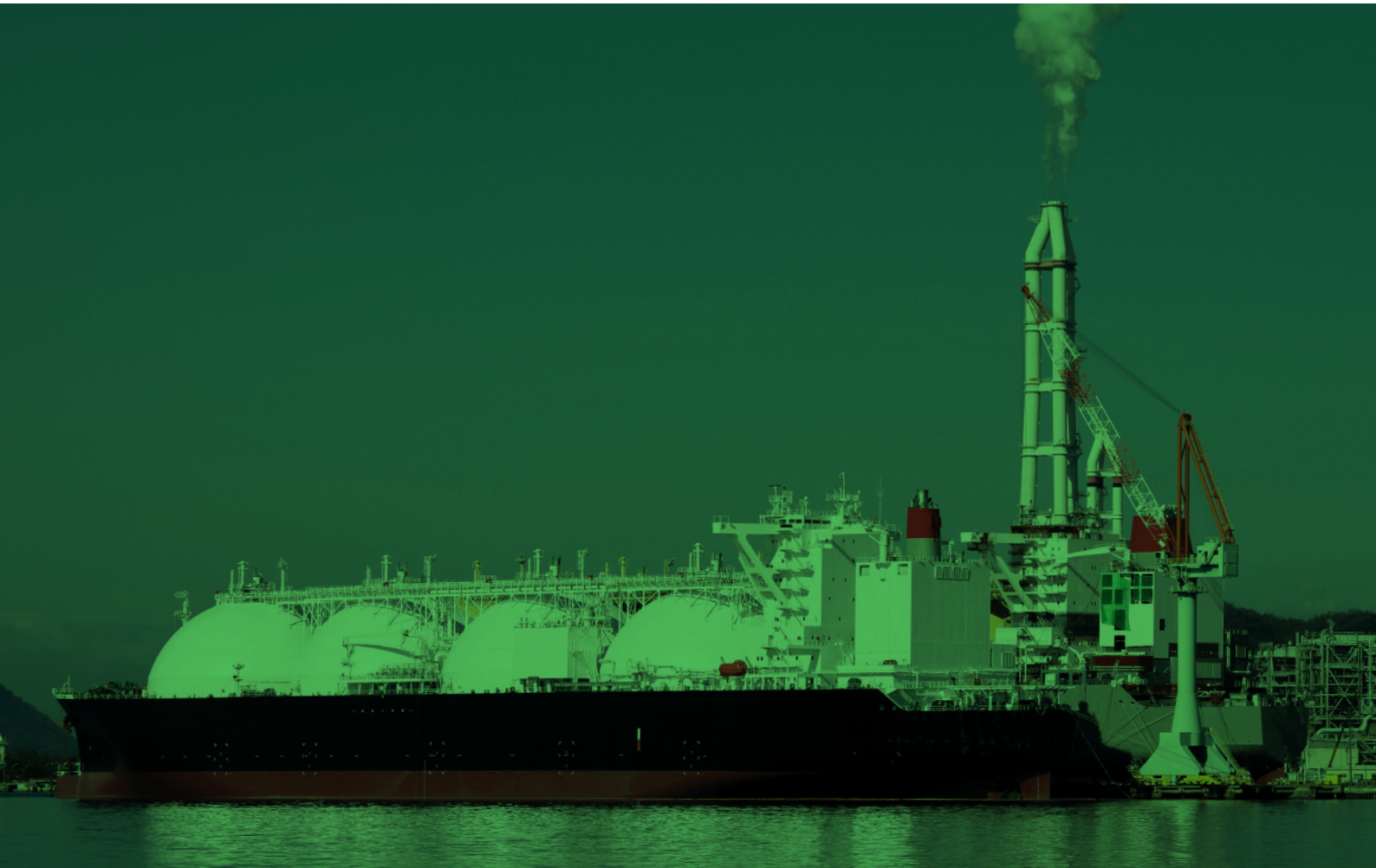
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