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PIONEERING
THERMOPLASTIC TECHNOLOGY

OFFICES IN:

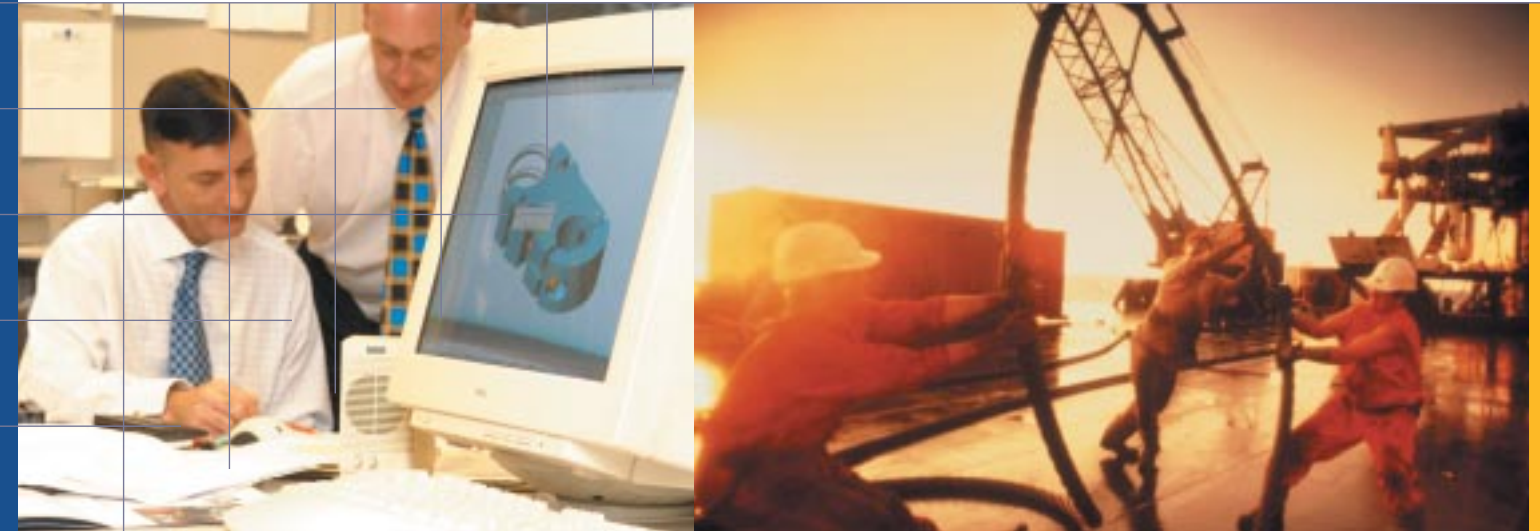
EUROPE • USA • SOUTH AFRICA • AUSTRALIA

Devol Engineering Limited

world pioneers in the design, development and manufacture of advanced thermoplastics.

Materials available include:

- Devlon
- Nylon
- UHMWPE
- Acetal
- PEEK
- HDPE
- PTFE
- PPS
- PES
- PVC
- PP
- ABS



Devol Engineering are renowned for the production of high quality, durable components made from polymers which are directly interchangeable with existing units, are corrosion free, have superior wear characteristics and offer a substantial weight saving.

The components produced by Devol effectively replace and improve upon the performance levels offered by bronze, brass, hardened steel, laminates and incorrectly specified low performance plastics.

In addition to manufacturing superior components, we pride ourselves on our exclusive "idea to innovation" service. Working in tandem with clients, Devol provide unique solutions to engineering problems, combining technical expertise, project management and state of the art equipment to offer optimal solutions to difficult application problems.

Through our innovative approach Devol identify areas where our materials will offer performance improvements and cost savings. The type of material we select from our range depends upon the application, and then we use the most modern CAD technology to model and design components. We also offer a prototype service which helps to reduce costs for clients. Devol works closely with the client throughout the development process and only when the client is satisfied is the design communicated to the factory where bespoke manufacturing capabilities allow us to machine individually tailored products for use in the most demanding subsea environments.

Devol[®]

DESIGNED TO PERFORM - ENGINEERED TO LAST

PIPELINES / FLOWLINES

*'However challenging the project,
we can provide the skills and
expertise to meet it'*

Stuart Dalrymple - Managing Director

PIPE IN PIPE CENTRALISERS

- Low thermal conductivity
- Exceptional creep characteristics – even at elevated temperatures
- Excellent abrasion resistance
- Low drag co-efficient at pull through
- No measurable deflection on reeling trials

FLOWLINE BUNDLE SPACERS

- Replaces traditional steel spacers
- Reduced weight, reduced cost
- Exceptional wear resistance at pull through
- Low thermal conductivity
- Maximum utilisation of restricted space
- Zero corrosion



1. Assembly of Pipe in Pipe Centraliser
2. Flowline Bundle Spacer installed
3. Flowline 'X' section
4. Pipe in Pipe Spacer

CLAMPING SYSTEMS

RISER CLAMPS

- Vast weight reduction when replacing steel
- Does not support marine growth
- Single operative assembly
- Cost reduction versus steel
- Zero corrosion

UMBILICAL CLAMPS

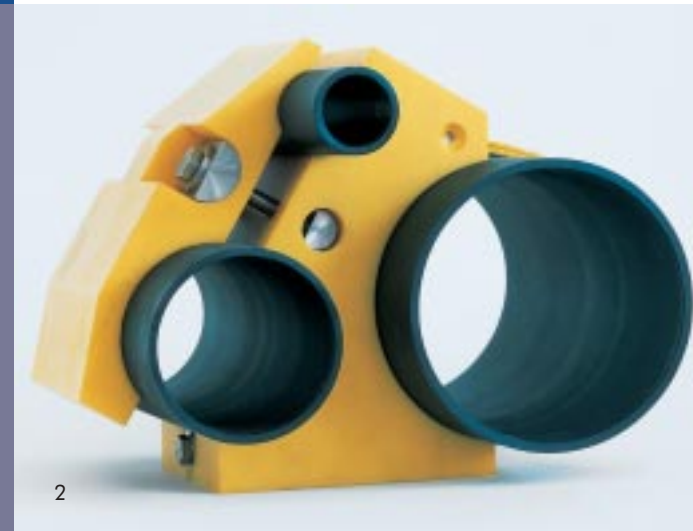
- Lightweight
- Cost effective
- Simple and quick installation
- Ensures adequate support for umbilical
- Enables simple running of umbilical in congested area

PIGGY BACK CLAMPS

- Lightweight
- Robust construction
- Easy to assemble
- Corrosion free
- Tailored to dimensions of main line



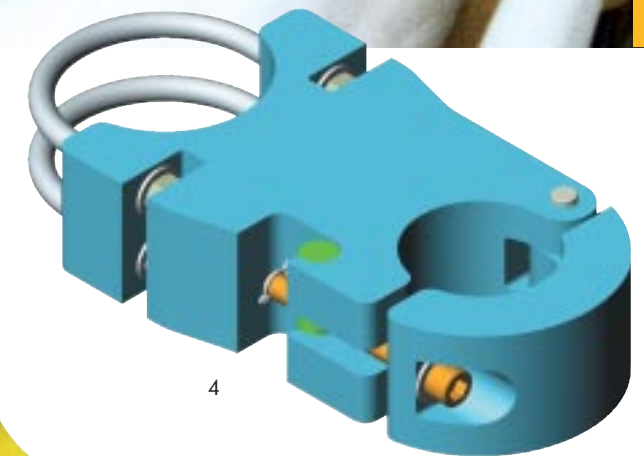
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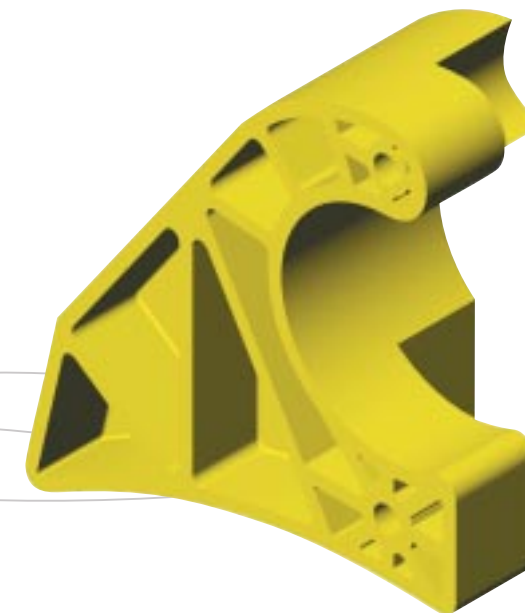
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*'Our focus is simple:
To meet your needs and budget on
specification and on time,
every time.'*

Graham Adair - Technical Sales

1. Drilling Riser Clamp prior to assembly
2. Production Riser Clamp
3. Riser System awaiting buoyancy
4. Umbilical Clamp
5. Piggyback Clamp Section



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RIG COMPONENTS

TOP TENSION RISER CENTRALISERS

- Lightweight, low cost solution
- Simple and quick installation
- 25+ year life performance
- Non corrosive and wear resistant
- No slippage under load

STRESS JOINT/KEEL JOINT GUIDES

- Ensures connectors do not snag on stem
- Maximises efficiency when running riser
- Reduces installation time
- Simple assembly

TUBING HANGER CENTRALISER

- Ensures correct centralisation of tubing hanger as it is installed into Xmas tree
- Provides equivalent flow area to match block annulus
- Robust and impact resistant
- Lightweight

'We don't subcontract - we maintain our own skills base of professional staff who are trained to the highest standards. People you can trust.'

Graham Stark - Operations



1. TTR installation
2. Wellhead Thermal Barrier
3. Tubing Hanger Centraliser
4. Keel Joint Guide Cone



CUSTOMISED COMPONENTS

TENSIONER PADS

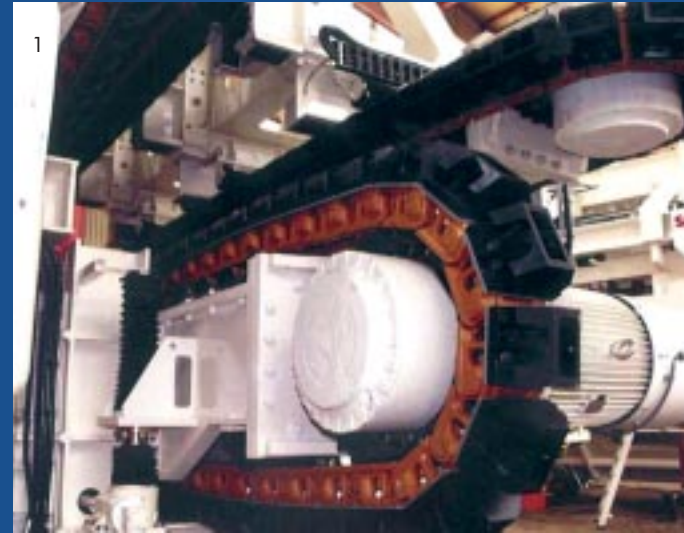
- One seventh the weight of steel
- Modular design reduces tensioner pad change outs
- Non corrosive
- Huge operational cost saving due to reduced downtime
- Covers a wide range of pipe diameters

ROV COMPONENTS

- Designed specifically to customer requirements
- Lightweight
- Simple assembly
- Corrosion free
- Cost effective

SPACER UNIT AND GUIDE ELEMENT

- Safety critical component for drilling rig safety cables
- Specified on Heidrun Platform
- Lightweight simple construction
- Will travel 31,000km over 20 year lifespan
- Cost effective solution



'Devol operates a process-based management system certified to ISO9001:2000 & 1st Point Assessment.'

Neil Hendry - QA

1. Tensioner Pads in situ
2. Propulsion Unit on ROV
3. Spacer Unit/Guide Element being inspected
4. Hydraulic Pressure Compensator
5. Thruster Ducts assembled



Various other components including:

- Penetrator blocks
- Docking probes
- Manipulator bushes
- Umbilical guides (top side)
- Umbilical pulleys (top side)
- Impact/wear strips
- Camera pan and tilt units



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