

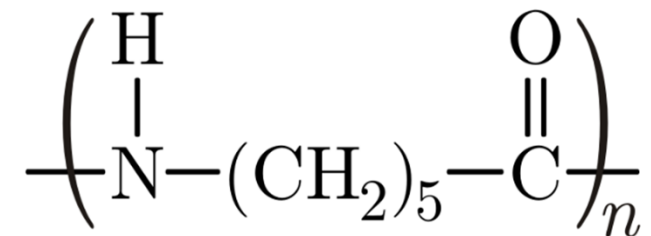


Control Line Clamp & Centraliser Product Information

# Material – Why Nylon 6?

- Nylon 6
  - An engineered thermoplastic known for its excellent mechanical, thermal, mould-ability, chemical resistivity and morphological properties.
  - The natural properties create a lightweight material, perfect for handling.
  - Low Friction – Important for our downhole clamps utilized in long, horizon and complex wells to aide extended reach.
  - Exceptional Toughness, abrasion and wear resistance – Not only protecting the umbilical and tubing but also reducing the risk of damage to other equipment.
  - These properties make it the perfect choice for our products.

**AW**  
**ELEMENTS**



**Nylon 6**

Properties	Method	Unit	ELE-1500 dry cond.		ELE-3000 dry cond.	
<b>Mechanical</b>						
Tensile strength						
break	DIN 53455	MPa	54	44	37	29
80% humidity and immersion			36	27	26	19
Elongation	DIN 53455	%	90	320	350	370
80% humidity and immersion			360	300	420	300
Tensile modulus	DIN 53457	MPa	2106	900	978	431
80% humidity and immersion			641	444	330	268
Flexural modulus	ASTM D790	MPa	2279	1094	1045	466
Charpy impact						
notched, 23deg/C	DIN 53453	KJ/m2	20B	42D	42D	
notched, -40Deg/C		KJ/m2	14B	15B	28D	
Izod, 23deg/C	ISO 180	KJ/m2	19D	60D	62D	NB
Izod, -40Deg/C			9B	10B	16D	30D
Shore D						
	DIN 53505		77	73	67	58
<b>Water absorption</b>						
23Deg/C 50% RH	DIN 53714	%	2.5		1.7	
<b>Miscellaneous</b>						
Density	DIN 53479	g/cc	1.12		1.14	
Taber abrasion	ASTM D1044	mg/10X6 cycles				17
(1000 gr, wheel CS 17, 1000 REV)						

# Moulded Material Data Sheet

# Moulding Manufacturing Process



- Reaction Injection Moulding Manufacturing Process
  - Is a process technique for the formation of polymer parts by direct polymerization in the mould through a mixing activated reaction
  - Chemical mixes in tanks A & B are injected at a low pressure through the mixing head into the mould where the combination of chemicals and heat react to form a solid part
  - Additives can be added to the mix to create buoyancy
  - The manufacturing process time for each shot is around 4-6 minutes per clamp
  - Manufacture parts approx. 1-25kg
  - Complex profiles –viscosity of mix can fill complex profiles
  - Little waste – improves efficiency and kinder to the environment

# Downhole Products

“Light weight and quick installation”

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**ELEMENTS**



Sizes from 2 3/8" upwards



## Features

- Low coefficient of friction
- Light weight
- Full bodied or cupped designs
- Robust/wear resistant material
- Cost effective

## Benefits

- Reduces loading required for long horizontal and complex completions
- Quick and easy to install



# Safety Jar Clamp

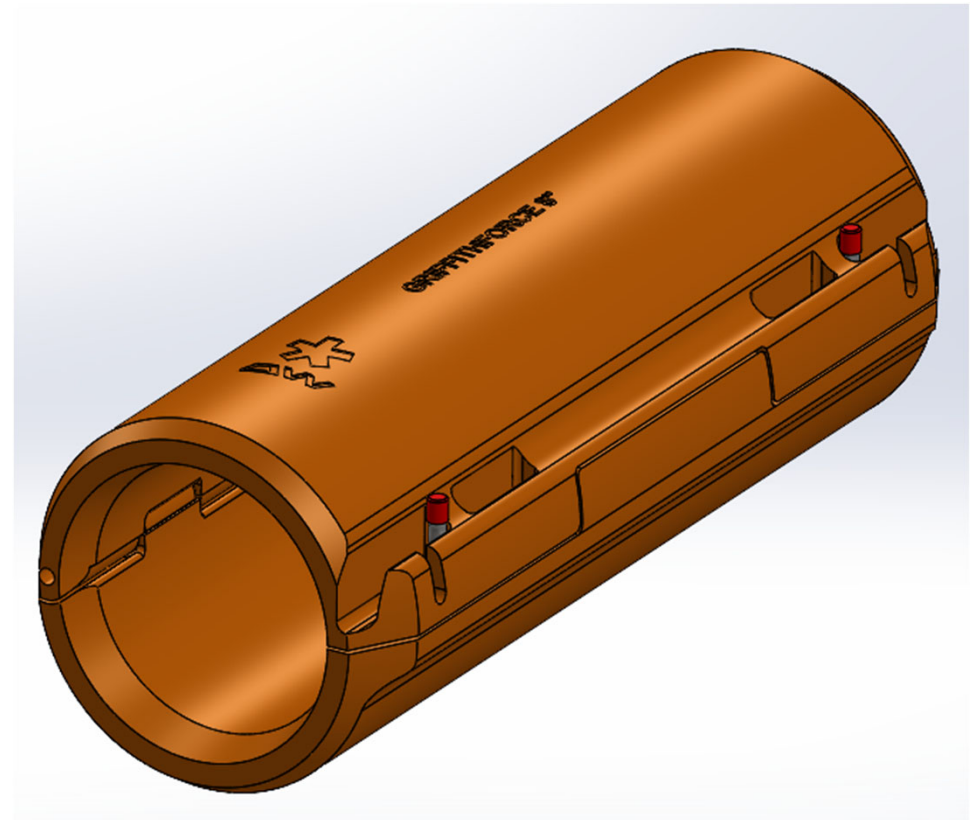
“Light weight and safer to install”

## Features

- Light weight
- Robust material
- Compressive loads up to 22T
- Cost effective

## Benefits

- Lighter than metal equivalent
- Quick and easy to install



“The AWE Installation Kit Services all our subsea and downhole products”

## Installation Kit

