

*Heat Treatment Consumables and Spares*  
*Stork Thermal and Inspection Services*

## Specialist Provider of the following Services & Products

- Onsite Heat Treatment
- Inspection & Testing
- Consultancy
- Mechanical Services
- Heat Treatment Equipment
- Furnaces & Ovens

## Heat Treatment Equipment Sales

Stork Thermal and Inspection Services (STIS) is a group of companies, originally well known as Cooperheat. Cooperheat, now Stork Cooperheat, has a long standing reputation for design and engineering excellence the world over, Stork Cooperheat is today bringing its expertise in thermal processing and Inspection technologies to more customers than ever before, thanks to a continuing tradition of quality and innovation support by our parent Stork N.V.

Stork Cooperheat, has been the industry leader in the field of heat treatment since 1958 when Cooperheat, then known as Cooper Electro Heat, first developed the ceramic heating element. Today, Stork Cooperheat continues to lead the way designing, manufacturing and supplying a complete range of heat treatment equipment to meet our customers' needs anywhere in the world. Stork Cooperheat equipment is internationally renowned for high standards of quality, safety, durability and reliability.

Our range of equipment also offers the user versatility and



simplicity of operation as well as maintenance. Stork Cooperheat equipment can be safely used in a wide variety of environmental conditions as is denoted by the CE mark on all our electrical equipment.

Stork Cooperheat's complete range of heat treatment equipment includes all necessary power supplies, temperature control and recording instruments, cables, heating elements, insulation and accessories. Whether you are going to carry out heat treatment on simple butt welds or complex pipe work and vessel fabrications, Stork Cooperheat can supply the full range of equipment you need. Stork Cooperheat equipment is designed and manufactured by experienced engineers and technicians in our United Kingdom facility. Each item is inspected by our quality control engineers and certified as having passed inspection in compliance with our ISO 9001:2000 quality management system and the European Safety Directives.

Our sales engineers are dedicated to providing the

very best in service. Their extensive experience in the field of heat treatment ensures that the equipment offered will meet the requirements of our client's application and provide effective solutions for any heat treatment requirement. Stork Cooperheat's worldwide team of engineers provide an excellent after sales service including:

- Calibration
- Equipment inspections
- Repair
- Technical advice
- Forward order contracts with scheduled deliveries
- Operator training

Product data sheets are available for all items manufactured and supplied by Stork Cooperheat and can be downloaded from our website or requested from your nearest Stork Cooperheat operation or distributor.

[Our global contact details appear on the back of this brochure.](#)



**Spare Advantage 3 programmer/controller**  
Replacement 'Advantage 3' linkable, programmer/controller.

Supersedes the 'Advantage 2' linkable, programmer/controller. See 'Advantage 3' data sheet for full details and specification.

Stock Reference	Description
548-055	'Advantage 3' linkable, programmer/controller



**Advantage 3 programmer/controller heat treatment unit upgrade kit**  
Contains the necessary parts and instructions required to upgrade any make or model heat treatment unit to provide the

additional, functionality, user benefits and cost savings provided by the 'Advantage 3' linkable programmer/controller. See 'Advantage 3 upgrade kit' data sheet for full details and specification.

Stock Reference	Description
12300	'Advantage 3' linkable programmer/controller, heat treatment unit upgrade kit



**Spare Advantage 2 programmer/controller**  
Replacement 'Advantage 2' linkable, programmer/controller. Superseded by the improved 'Advantage 3' linkable,

programmer/controller though stocks of the 'Advantage 2' will be held by Stork Cooperheat and remain available until end of 2009.

Stock Reference	Description
548-051	'Advantage 2' linkable, programmer/controller



**Thermocouple Wire**  
Type K nickel chrome/nickel aluminium thermocouple wire, insulated with high temperature glass braid. Recommended maximum temperature 800°C. A consumable item, which is used to convert the thermal energy at the hot junction of the thermocouple to an electrical mV signal which can then used by temperature control and recording instruments to accurately record and control

the temperature of the item being heat treated. Conforms to:  
BS EN 60584-1 : 1996 part 4,  
BS EN 60584-2 : 1993 class 1 and ANSI-MC96

The thermocouple wire is attached directly to the work piece using Stork Cooperheat's 'thermocouple attachment unit' Stock Reference: 41756 (110V unit) or 41757 (230V unit).

Stock Reference	Description
43000	100m roll of type K thermocouple wire

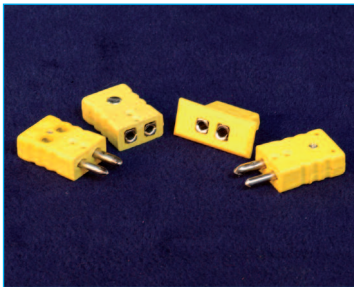


### High Temperature Putty

A small portion of the soft putty is fixed over the hot junction of the thermocouple, which is attached to the item being heat-treated. Once the putty dries, after 20 minutes,

it hardens to protect the hot junction and helps avoid possible short circuit of the thermocouple wires which would result in temperature control and recording errors.

Stock Reference	Description
43007	Jar of high temperature putty



### Thermocouple Connectors

Type K plug and socket thermocouple connectors. We offer two types of thermocouple plugs, type 516-111 being the standard type normally used with compensating cable. Whereas type 516-125 'quick connection'

plugs are ideally suited for use with thermocouple wire where regular connections are required. The 'quick connect' plug can be attached to thermocouple wire in seconds and reduces waste caused by the loss of terminal covers.

Stock Reference	Description
516-111	Type K, inline plug (standard connection)
516-112	Type K, inline socket
516-115	Type K, inline plug (quick connection)
516-125	Type K, panel mounted socket

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### 60A In-Line Connectors

Spare connectors for repair of splitters and heating elements.

Stock Reference	Description
508-009	60A brass male connector
508-010	60A brass female connector
508-019	60A fibre male sleeve for use with 508-009
508-020	60A fibre female sleeve for use with 508-010
508-022	60A fibre pin for use with 508-019 and 508-020
508-040/m	12.7mm wide copper shim (per metre) for use with 508-009 and 508-010



### 300A In-Line Connectors

Spare connectors for repair of triple cable sets and splitters.

Stock Reference	Description
508-006	300A brass male connector
508-007	300A brass female connector
508-015	300A fibre male sleeve for use with 508-006
508-016	300A fibre female sleeve for use with 508-007
508-021	300A fibre pin for use with 508-015 and 508-016
508-041/m	19mm wide copper shim (per metre) for use with 508-006 and 508-007

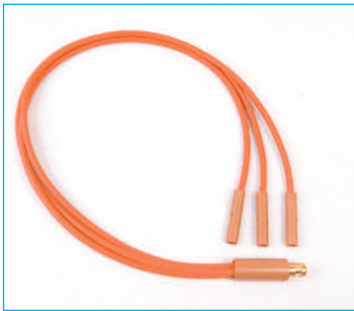


### 300A Panel Mounted Connectors

Spare panel mounted connector sockets for repair of heat

treatment modules and heat treatment units. Supplied complete with fibre washer and lock nut.

Stock Reference	Description
508-001	300A panel mounted sockets



### Splitter cables

For use with triple cable sets. Splitters are used where the operator needs to connect multiple heating elements, in parallel, to triple cable sets to enable the control of multiple

heating elements. This enables the heating elements to be grouped to a single control output from a heat treatment unit to allow accurate zonal temperature control.

Stock Reference	Description
32001	2 Way splitter
32002	3 Way splitter
32003	4 Way splitter
32004	5 Way splitter



### Triple cable sets

For use with heat treatment units controlling 30V, 40V, 60V and 80V heating elements. Includes two double insulated cables for power feed

and return, fitted with 300A male and female connectors and one compensating cable fitted with type K thermocouple plug and socket.

Stock Reference	Description
35020	15m Triple cable set 135A
35024	30m Triple cable set 135A
35032	30m Triple cable set 180A
35033	30m Triple cable set 280A



### Thermocouple compensating cable

Suitable for use with type K thermocouples where monitoring thermocouples, in addition to the control thermocouples are required for temperature

monitoring purposes. Available in 30m lengths complete with type K thermocouple plug and socket or in 100m rolls without plug and socket (plugs and sockets can be supplied separately as required).

Stock Reference	Description
34000	30m Compensating cable c/w type K thermocouple plug and socket
34008	100m roll of compensating cable without thermocouple plug or socket



### Compensating cable link cables

To link controller/programmer thermocouple input to the recorder input.

Stock Reference	Description
34013	3m 'jumper' compensating lead fitted with two type K thermocouple plugs

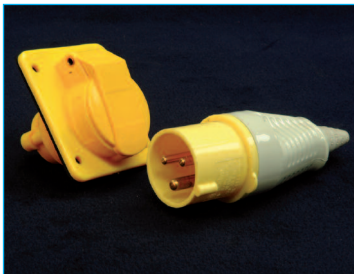


### Programmer/contactor control leads

To connect separate, external controller/programmer units output to power source control input.

Stock Reference	Description
33009	3m, 3-core, Programmer/contactor control lead

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### 110V supply plugs and sockets

Spare in-line plugs and panel-mounted sockets for repair of 110V supply cables and supply outputs.

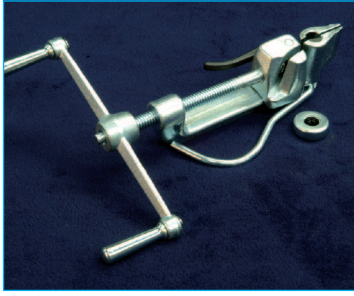
Stock Reference	Description
516-040/1	Yellow, 110V, 16A, 3 round pin, Industrial (BS4343) panel mounting socket
516-041	Yellow, 110V, 16A, 3 round pin, industrial (BS4343) in-line plug



### 110V control plugs and sockets

Spare in-line XLR plugs and panel-mounted sockets for repair of 110V control cables and control inputs and outputs.

Stock Reference	Description
516-100	3 pin XLR type panel mounting plug for 110V contactor control
516-101	3 pin XLR type panel mounting socket for 110V contactor control
516-102	3 pin XLR type in-line socket for 110V contactor control
516-103	3 pin XLR type in-line plug for 110V contactor control



### Banding machines

For tightening, cutting off and clipping mild and stainless steel banding.

Stock Reference	Description
29256	Winder banding machine (for mild steel banding)
29255	Ratchet banding machine (for mild and stainless steel banding)



### Banding tape

For bands of more than four heating elements, Stork Cooperheat recommend that mild steel banding and banding clips are used to ensure the heaters remain in full contact with the pipe.

For temperatures in excess of 650°C we recommend using stainless steel banding and clips.

(Note: That mild steel banding should not be used on Chrome Moly post weld heat treatments).

Stock Reference	Description
29257	Mild steel banding (30m roll)
29259	Stainless steel banding (30m roll)



### Banding clips

Mild and stainless steel clips for fastening mild and stainless steel banding.

Stock Reference	Description
29258	Mild steel banding clips (box of 100)
29260	Stainless steel banding clips (box of 100)



### Tie Wire

For heating element bands of less than four heating elements,

soft iron wire is sufficient fixing the heating elements and insulation around the work piece.

Stock Reference	Description
29266	Soft iron wire (25kg roll)

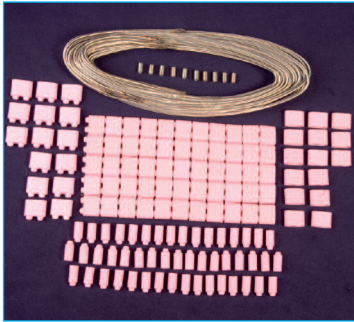


### Elastic straps

Used to temporarily hold ceramic pad heating elements in place whilst they are correctly

positioned and spaced prior to fixing in place with tie wire or banding.

Stock Reference	Description
29253	Elastic, 850mm strap with hooks



### Heater Repair Kits

Heater repair kits provide a cost effective method of repairing burnt out 80/20 Ni Cr heating elements by recycling heating element beads and connectors.

replace the few beads that need to be broken to break down a damaged heating element prior to repair.

The repair kits include the necessary core wire with welded tails and the beads required to

The heating element 'core wire with welded cold tail kits' only include the replacement core wire with welded cold tails.

Stock Reference	Description
29455	60V heating element body and tail repair kit
29456	60V heating element body/cold tail assembly kit
29453	80V heating element body/cold tail assembly kit
29450	80V heating element body and tail repair kit

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### Heater Beads

Ceramic, sintered alumina beads for repair and manufacture of ceramic pad heating elements.

Stock Reference	Description
500-003	Main body beads
500-001	Starter beads
500-002	Finisher beads
500-004	Main body hole beads
500-008	Tail beads



### Heating Element Wire

Heating element core wire and cold tail wire for repair and manufacture of ceramic pad heating elements.

Stock Reference	Description
502-050	19 strand 80/20 core wire
502-003	19 strand nickel 212 cold tail wire
502-001	19 strand 60/16 Ni Cr core wire





### Superwool insulation

Superwool is a high temperature insulating fibre blanket manufactured from Calcium Magnesium Silicate. This material has a thermal performance equivalent to refractory ceramic fibre up to 1200°C. However, unlike ceramic fibre, Superwool is body soluble and has a larger needle particle size. These qualities mean that Superwool represents a lower

respiratory hazard than ceramic fibre, although, as with all high temperature insulating fibre, normal respiratory protection in the form of an appropriate dust mask should be worn during handling.

Superwool is available in a range of mat sizes, protected by a stainless steel mesh to extend the working life of the insulation. Alternatively, Superwool is also supplied in unmeshed rolls.



Stock Reference	Description
29800	25mm thick s/s meshed mat 300mm x 300mm
29801	25mm thick s/s meshed mat 300mm x 600mm
29802	25mm thick s/s meshed mat 300mm x 900mm
29803	25mm thick s/s meshed mat 600mm x 600mm
29804	25mm thick s/s meshed mat 600mm x 900mm
29805	25mm thick s/s meshed mat 600mm x 1200mm
29806	25mm thick s/s meshed mat 600mm x 1800mm
29807	25mm thick s/s meshed mat 300mm x 1800mm
29608	25mm thick unmeshed roll 7320 mm x 610mm

Density: 96kg per metre cubed. Material Safety Data Sheet available upon request.



### Cooperknit insulation

Cooperknit insulation is a cost effective knitted, silica fibre with many user benefits including, reusability, long life and low risk to user health and safety and minimal skin irritation compared with most other high temperature insulating fibres.

Cooperknit can be used repeatedly at continuous operating temperatures up to 950°C without loss of thermal or mechanical properties.

Independent tests on Cooperknit have shown that no respirable fibres were found in any samples after exposure to 1000°C for 24 hours

Cooperknit is available in a range of standard mat sizes detailed below, we are also able to supply special mats sizes or configuration to meet your exact requirements. Alternatively, Cooperknit is also supplied in 7.5m long rolls.



Stock Reference	Description
29700	10mm thick mat 300mm x 600mm
29701	10mm thick mat 600mm x 600mm
29702	10mm thick mat 900mm x 600mm
29703	10mm thick mat 1200mm x 600mm
29704	10mm thick mat 1800mm x 600mm
29669	10mm thick roll 7500mm x 600mm

Density: 96kg per metre cubed. Material Safety Data Sheet available upon request.



**Tubular, stainless steel sheathed thermocouples**  
Commonly used for temperature measurement in small furnaces and ovens.

Stock Reference	Description
42001	0.6m stainless steel sheathed type 'K' thermocouple with fitted thermocouple plug
42002	1.8m stainless steel sheathed type 'K' thermocouple with fitted thermocouple plug



**Single Pole Contactors**  
Replacement single pole contactors and contacts for 0-65V and 0-85V output, heat treatment modules and units.

Stock Reference	Description
526-054/SA	Single pole 250A contactor (assembled)
526-056	Fixed contact for single pole contactor
526-057	Moving contact for single pole contactor

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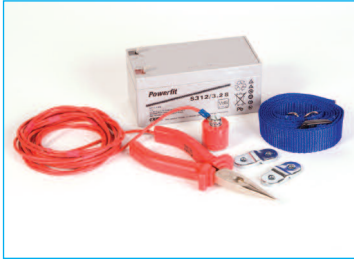
**Double Pole Contactors**  
Replacement single pole contactors and contacts for 32.5-0-32.5V and 42.4-0-42.5V output, heat treatment modules and heat treatment units.

Stock Reference	Description
526-059/SA	Double pole 250A contactor (assembled)
526-059/1	Fixed contact for double pole contactor
526-059/2	Moving contact for double pole contactor



**Circuit Breakers**  
Replacement mains circuit breaker for heat treatment modules and heat treatment units.

Stock Reference	Description
522-050	125A circuit breaker (for 50kVA heat treatment modules and heat treatment units)
522-051	160A circuit breaker (for 75kVA heat treatment modules and heat treatment units)



### TAU Spares

Replacement parts for Stork Cooperheat's Thermocouple Attachment Units (TAUs).

Stock Reference	Description
558-027	TAU rechargeable battery, 3 Amp hour, 12V d.c.
536-128	Pliers and magnet set for TAU.
536-058	Replacement ,TAU shoulder strap and clip.



### Recorder Spares

Replacement parts for Stork Cooperheat's 12 point, Fuji, temperature chart recorder.

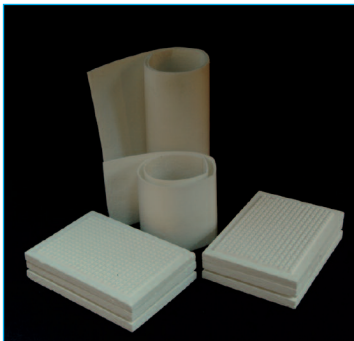
Stock Reference	Description
542-266	Chart paper for 12 point Fuji temperature chart recorder
542-277	Recorder Print Head Cartridge for 12 point Fuji temperature chart recorder
542-278	Carriage motor for 12 point Fuji temperature chart recorder
542-279	Chart motor for 12 point Fuji temperature chart recorder
542-280	Timing belt for 12 point Fuji temperature chart recorder
542-281	Drive cable for 12 point Fuji temperature chart recorder



### FIP Magnets

Pair of powerful limpet magnets with cross bar used to quickly clamp Flexible Insulated Preheaters (FIPs) to the work piece being preheated.

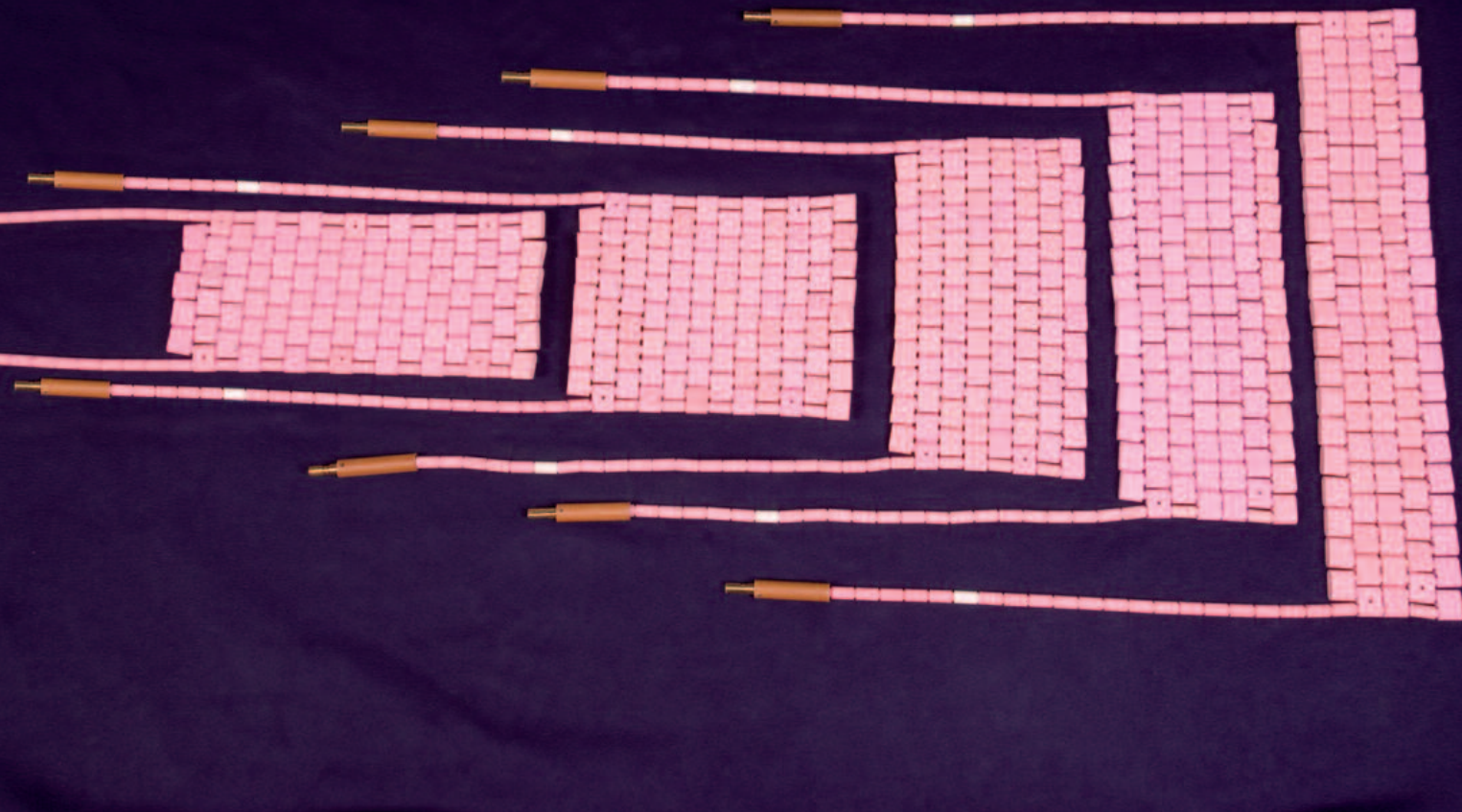
Stock Reference	Description
29268	Assembled pair of limpet magnets with cross bar.
536-001	Replacement, single, limpet magnet.



### SCU plaque and gasket set

Replacement parts for repair of Stork Cooperheat Surface Combustion Units (SCU).

Stock Reference	Description
6262/P/15	Replacement set of six SCU plaques & gaskets



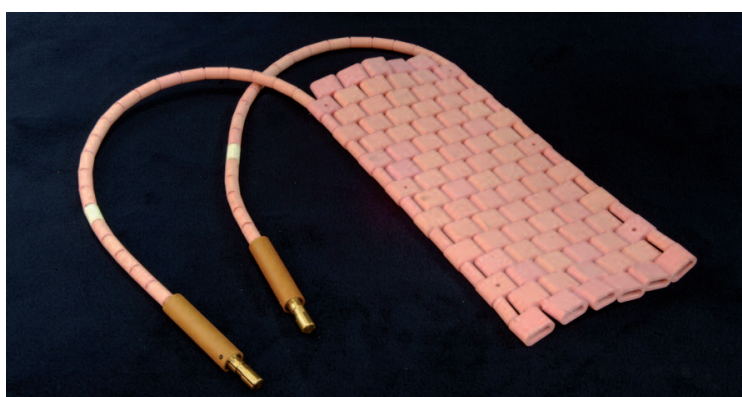
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## *Flexible Ceramic Pad (FCP) heating elements.*

*Stork Cooperheat FCP heating elements save you money.*

Stork Cooperheat use the highest quality materials available in the construction of our Flexible Ceramic Pad (FCP) heating elements. These materials make the heating elements highly durable, which extends the usable life of Stork Cooperheat heating elements beyond that normally expected. This extended life, high durability and reliability combine to save you money by:

- Reducing reworks and lost time due to heating element failures.
- Reducing your annual



costs for replacing or repairing failed or damaged heating elements.

Stork Cooperheat ceramic heating elements are constructed from high grade sintered alumina ceramic

beads, 80/20 Nickel-Chrome core wire and Nickel cold tail wire. The construction allows the heating element to be flexible and provides high heat transfer efficiency.

Stork Cooperheat insist on using high quality, ceramic beads, with a high resistance to thermal and physical shock, in the construction of FCP ceramic heating elements.

The important physical properties, which make these beads superior to other beads used in the heat treatment industry, are detailed in the ceramic bead physical properties table below.

Alumina content	95%
Bulk density fired	3.7 Mg/m <sup>3</sup>
Grain size	6µm
Vickers hardness	12.5
Rockwell hardness	78 (R45N)
Compressive strength	2000 MPa
Flexural strength	320MPa (ASTM C1161, 3 point)
Young's modulus	325 Gpa
Thermal conductivity	21W/m <sup>3</sup>

These beads are supplied to Stork Cooperheat by one of the leading, ISO 9002 accredited, specialist ceramic manufacturers in the ceramic industry.

The cold tails of Stork Cooperheat ceramic heating elements are butt welded to the heater core wire which eliminates the cold tail/core wire junction failures often seen with low quality heaters which use steel ferrules.

By selection, from the extensive range of Stork Cooperheat FCP heating elements, any pipe size or pipe configuration can be covered so that the correct amount of heating power can

be applied to successfully heat treat the pipe weld or other fabrication. Stork Cooperheat FCP heating elements are manufactured with a range of power ratings

for use with a selection of standard voltages.

If you require any special heating element configuration, voltage or power rating, Stork Cooperheat will use their heat treatment engineering expertise to provide you with a heating element custom built to meet your exact needs.

Stork Cooperheat FCP heating elements can, if handled correctly, be used approximately fifty times at temperatures up to 1050°C (1922°F).

Stork Cooperheat can provide higher temperature heating elements if required which can be used repeatedly at temperatures up to 1200°C (2192°F).

### Specifications

(All dimensions are nominal)

Stock Reference	Type Reference	Width (tail to tail)		Length (of heater body)		Volts v	Power kw
		mm	inch	mm	inch		
20030	CP3	75	3.00	670	26.50	60	2.70
20031	CP4	100	4.00	500	19.50	60	2.70
20032	CP6	150	6.00	335	13.00	60	2.70
20033	CP8	205	8.00	250	9.75	60	2.70
20034	CP10	255	10.00	205	8.00	60	2.70
20035	CP12	305	12.00	165	6.50	60	2.70
20036	CP15	380	15.00	145	5.75	60	2.70
20037	CP16	410	16.25	125	5.00	60	2.70
20038	CP21	525	20.50	105	4.00	60	2.70
20039	CP24	600	23.50	85	3.25	60	2.70
20040	CP10L	250	10.00	85	3.25	30	1.35
20041	CP48	1200	47.25	45	1.75	60	2.70
20042	CP20L	500	19.50	45	1.75	30	1.35

Table continued over

20050	CP4MG60	100	4.00	670	26.50	60	2.40
26260	CT78	25	1.00	1950	77.00	60	2.70
26261	CT36L	25	1.00	915	36.00	30	1.35
21030	CP3H	75	3.00	925	35.50	80	3.60
21031	CP4H	100	4.00	690	27.00	80	3.60
21032	CP6H	150	6.00	465	18.25	80	3.60
21033	CP8H	205	8.00	360	14.25	80	3.60
21034	CP10H	255	10.00	295	11.25	80	3.60
21035	CP12H	305	12.00	230	9.00	80	3.60
21036	CP15H	380	15.00	190	7.50	80	3.60
21037	CP17H	420	16.50	165	6.50	80	3.60
21038	CP21H	535	21.00	145	5.75	80	3.60
21039	CP33H	840	33.00	85	3.25	80	3.60
21040	CP15L	380	15.00	85	3.25	40	1.80
21041	CP66H	1680	66.00	40	1.50	80	3.60
21042	CP30L	760	30.00	40	1.50	40	1.80
21050	CP4MG80	100	4.00	800	31.5	80	3.60
22005	CP24H	610	24.00	335	13.00	220	9.90
22006	CP26H	660	26.00	335	13.00	240	10.80
22007	CP28H	710	28.00	335	13.00	255	11.50

1) Stock References: 22005, 22006 and 22007 are for use up to a maximum temperature of 600°C.

2) Stock References: 20050 and 21050 are replacement heating elements for Flexible Insulated Pad (FIP) heating elements (stock Reference: 22062 and 22063 respectively) with integral magnets.

3) For heating elements for use at temperatures up to 1200°C add the prefix 'K' to the stock reference.

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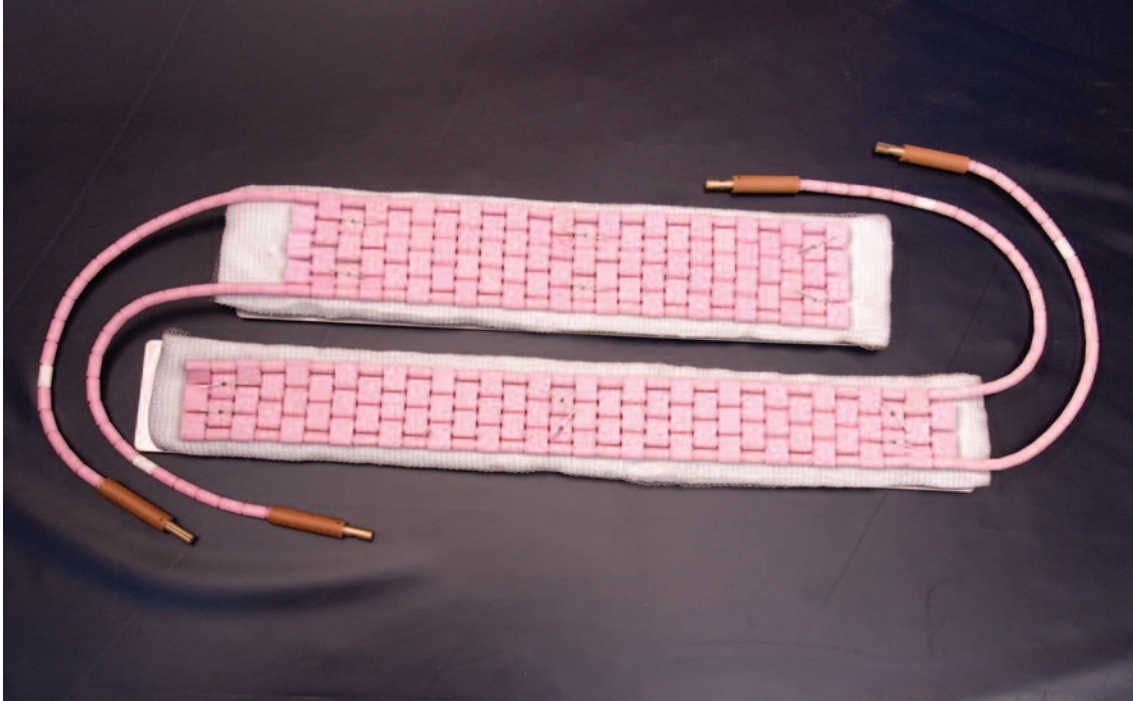
## Heating Element selection guide (For heat treatment cycles up to 800°C)

To be used as a guide only. Reference should always be made to specific code or specification heated band width requirements.

Nominal Bore		Pipe wall thickness inches / (mm)					
Inches	mm	0-0.8 / (0-20)	0.8-0.9 / (20-23)	0.9-1.1 / (23-28)	1.1-1.4 / (28-36)	1.4-1.8 / (36-46)	1.8-2.4 / (46-61)
1	25.4	1 x CP48	n/a	n/a	n/a	n/a	n/a
2	50.8	1 x CP8	n/a	n/a	n/a	n/a	n/a
3	76.2	1 x CP12	n/a	n/a	n/a	n/a	n/a
4	101.6	1 x CP15	n/a	n/a	n/a	n/a	n/a
6	152.4	2 x CP12	2 x CP12	n/a	n/a	n/a	n/a
8	205.2	2 x CP15	2 x CP10	2 x CP10	n/a	n/a	n/a
10	254	3 x CP12	4 x CP8	4 x CP8	n/a	n/a	n/a
12	304.8	4 x CP10	4 x CP10	4 x CP10	2 x 4 x CP10	n/a	n/a
14	355.6	3 x CP15	4 x CP12	6 x CP8	6 x CP8	2 x 4 x CP12	n/a
16	406.4	2 x 4 x CP12	2 x 4 x CP12	2 x 4 x CP12	2 x 5 x CP10	2 x 5 x CP10	n/a
18	457.2	2 x 4 x CP15	2 x 4 x CP15	2 x 4 x CP15	2 x 5 x CP12	2 x 5 x CP12	n/a
20	508	2 x 5 x CP12	2 x 5 x CP12	2 x 5 x CP12	2 x 5 x CP12	2 x 6 x CP10	2 x 6 x CP10
22	558.8	7 x CP10	7 x CP10	8 x CP10	n/a	n/a	n/a
24	609.6	2 x 5 x CP15	2 x 5 x CP15	2 x 6 x CP12	2 x 6 x CP12	2 x 6 x CP12	2 x 7 x CP10
47	1193.8	2 x 12 x CP12	2 x 12 x CP12	2 x 12 x CP12	3 x 12 x CP12	3 x 12 x CP12	3 x 12 x CP12
63	1600.2	2 x 15 x CP12	2 x 15 x CP12	2 x 15 x CP12	2 x 15 x CP12	2 x 15 x CP12	3 x 15 x CP12

Example: 2 x 12 x CP12 = Two rows of twelve CP12 FCP heating elements.

# Flexible Insulated Preheaters (FIP's)



## Application

Flexible insulated preheaters (FIP's) can be used either flat or laid over curved surfaces. They are equally suitable for preheating pipework, fabrications and vessels either longitudinally or circumferentially.

## Specification

The FIP is designed to provide preheating up to a temperature of 250°C.

The element is identical to that used in the FCP heater described on page 12, but has a high grade ceramic fibre thermal insulating mat protected by a stainless steel backing.

A feature of this heater are the holding magnets for fast adhesion to their workpiece. These can be supplied either as a separate item, or built into the heater element.

## User Benefits

As with all Stork Cooperheat products the FIP heater is competitively priced and in addition:

- Has magnetic attachment for fast, low cost installation
- Has protection from weld spatter
- Operates on low voltage for operator safety
- Is strongly constructed for on-site reliability.

Heater Stock No	Type Reference	Width		Length		Volts	kw	Replacement Stock Number	Element Type Reference
		mm	ins	mm	ins				
22062	-	125	5	810	32	60	2.7	20050	-
22063	-	125	5	940	37	80	3.6	21050	-
22070	FIP 295	100	4	750	29.5	60	2.7	20030	CP3
22071	FIP 235	125	5	585	23	60	2.7	20031	CP4
22072	FIP 395	100	4	1000	39.5	80	3.6	21030	CP3H
22073	FIP 305	125	5	775	30.5	80	3.6	21031	CP4H
22074		110	4.25	725	28.5	60	2.7	20039	CP24
22075	-	930	36.5	110	4.25	80	3.6	21039	CP33H

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