

Technical Bulletin # 621L

### Product Description

SOCKETFAST is a safe, convenient, pourable resin socketing system for all types of wire rope including galvanized wire rope. Socketfast is the safest, the most economical, and the easiest way to attach sockets to wire cables of all sizes and for all applications. In shops or storage areas where reels of large-diameter wire rope are stored, on-site socketing can save thousands of dollars in handling costs. This is also true in remote operations such as offshore drilling rigs and platforms and in mining areas. No need for transportation to a special socketing area! No need for elevated pouring towers!

### Use & Benefits

SOCKETFAST provides a number of benefits over using the old zinc or babbitt method of securing a socket. Some of these include...

1. **SOCKETFAST substantially increases the fatigue life of wire rope assemblies.** Test results show how SOCKETFAST wire rope assemblies withstand repeated shock loads due to elasticity at the termination transition points. For direct correlation of results, all tests were conducted on bright wire rope.
2. **SOCKETFAST withstands severe environments.** SOCKETFAST is extremely reliable over a wide range of temperatures—from 95°C to -55°C (200°F to -65°F). This resin socketing system is not affected by electrolysis or by immersion in most corrosive fluids.
3. **SOCKETFAST is easy to use— anywhere.** All installations, including field installations, are made quickly and efficiently with standard cable sockets and standard cable end preparation. Uniform dispersion of filler throughout each fitting makes SOCKETFAST the only socketing system that may be poured horizontally for large sockets (page 4).
4. **SOCKETFAST eliminates installation hazards.** SOCKETFAST is a convenient two-part liquid system. There are no dry powders which can become airborne to create health hazards or affect product consistency. No need for dangerous acid etching, open flames, or handling of hazardous molten metals.
5. **SOCKETFAST cures quickly to provide 100% of rated break strength.** With SOCKETFAST, wire rope assemblies develop full catalog break strength in less than one hour at 21°C (70°F); or they are ready for service in only 5 minutes after a 120°C (250°F) cure. With either ambient or elevated temperature cures, there is 30% less 'bedding in' on initial loading than with zinc or babbitt. After curing for one hour at ambient temperatures or for only 5 to 10 minutes with a wrap-around electric heater, the resin socketed assemblies will provide 100% of the cable's rated break strength with unsurpassed resistance to shock and fatigue loads.
6. **SOCKETFAST is the most economical, performance proven, cold-socketing system available.** In addition to superior performance in a wide range of industrial, marine and commercial applications, SOCKETFAST allows spelter-type end fittings to be used over and over again, without annealing.
7. **SOCKETFAST provides greater protection from high temperature pullouts.** Utilizing standard elevator fittings, this convenient resin socketing system will withstand fire 50% longer than babbitt. SOCKETFAST equals or exceeds other performance characteristics of babbitt, and combines superior performance with a material cost only one-fifth that of babbitt.

For elevator installations, follow preparation procedure as outlined in ANSI Code A17.1, Rule 21 29e, page 82. No melting pots, torches or other dangerous open flames are required. This means there are no problems with accidental activation of smoke alarms.

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## Installation Considerations

- SOCKETFAST resin has not been tested with stainless steel wire rope.
- Give particular attention to selecting sockets designed for resin socketing. Avoid using sockets with rings. If sockets with rings are used, the rings should be filled prior to pouring

### Quantities of Socketfast® Required for Sockets of Various Sizes

Rope or Strand Size (in.)	Rope Fittings			Elevator Shackles			Rope or Strand Size (in.)	Rope Fittings		
	grams	cc	in. <sup>3</sup>	grams	cc	in. <sup>3</sup>		grams	cc	in. <sup>3</sup>
1/4	15	9	0.5				1 5/8	860	495	30
5/16	30	17	1.1				1 3/4	1220	700	43
3/8	30	17	1.1	32	19	1.1	1 7/8	1220	700	43
7/16	60	35	2.1				2	2200	1265	78
1/2	60	35	2.1	60	35	2.1	2 1/8	2200	1265	78
9/16	90	52	3.2	60	35	2.1	2 1/4	2450	1410	86
5/8	90	52	3.2	100	58	3.5	2 3/8	2450	1410	86
1 1/16				130	75	4.6	2 1/2	3180	1830	112
3/4	150	86	5.3	145	84	5.1	2 5/8	3180	1830	112
7/8	215	125	7.5				2 3/4	3910	2250	137
1	275	160	9.7				3	5500	3160	193
1 1/8	365	210	13				3 1/4	6600	3795	232
1 1/4	610	350	21.5				3 1/2	8560	4920	300
1 3/8	610	350	21.5				3 3/4	10400	5980	365
1 1/2	735	420	26				4	13450	7730	472

SOCKETFAST is packaged and sold in three pre-measured kit sizes:

- 500 grams (288 cc or 17.5 in<sup>3</sup>)
- 1,000 grams (575 cc or 35.1 in<sup>3</sup>)
- 4,000 grams (2,299 cc or 140.3 in<sup>3</sup>)

**WIDE USABLE TEMPERATURE RANGE:** The maximum-use temperature for a wire-rope socket potted with SOCKETFAST is 95-120°C (200-250°F). SOCKETFAST has been tested at temperatures down to -54°C (-65°F), where it still provides a 100% efficient wire-rope termination.

**SHELF LIFE:** The shelf life of SOCKETFAST depends on the temperature it is stored at as follows:

- 65 to 80 °F (18 to 27 °C) – 9 months
- 40 to 65 °F (4 to 18 °C) – 1 year
- <40 °F (4 °C) – 1 year +

**CURING:** SOCKETFAST cures rapidly at ambient temperatures as low as 18°C (65°F). Ambient temperature cures at less than 16°C (60°F) are impractical. Below this temperature, or whenever a very fast cure is desired, an elevated temperature cure is recommended. Heating a freshly poured SOCKETFAST termination to 120°C (250°F) and maintaining that temperature for 5 minutes will result in a full cure and the socket can be placed in service immediately after cooling down. A water quench may be used.

**REUSE OF FITTINGS:** To remove the SOCKETFAST core for re-use of a fitting, heat is applied to the socket after it has been cut off the wire rope. When the cone is heated to 175-200°C (350-400°F), it can be easily pressed or punched out. A simple wire-brush cleaning of any loose debris puts the socket in condition for re-use, over and over again. Alternatively, the core may be pressed out cold.

## Installation Instructions

### VERTICAL SOCKETING

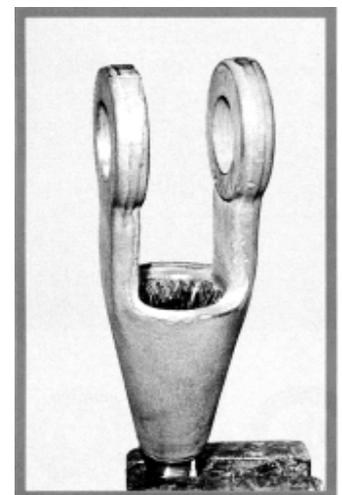
1. Place a wire seizing on the rope at the point where it will emerge from the base of the socket. For elevator applications, allow for turned-back strand.



2. Open the rope and broom individual wires. Clean the broom with a solvent or other effective degreaser that does not leave a residue behind. Air or blow dry.



3. Position the broom in the socket, mount the assembly securely, and align the axis of the rope and fitting. Most sockets will be poured vertically, as shown, but larger ones may be filled horizontally (page 4). Seal the socket neck with putty, duct tape or a similar material to prevent leakage. Make sure the socket temperature is at least 18 °C (65 °F) and preferably 25 °C to 30 °C (75 °F to 85 °F). Caution: Socket temperatures above 38 °C (100 °F) may cause premature hardening.



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4. Select appropriate Socketfast kit size, and make certain the temperature of both liquid components is between 18 °C and 32 °C (65 °F to 90 °F). If necessary, warm both sealed components by immersion in hot, not boiling, water. With a stick or mixing blade, mix resin for a minute or two, being careful to scrape the sides and bottom of the container, to assure a uniform consistency with all filler in suspension. Next, add all of the catalyst to the container of resin and mix thoroughly. The large 4000-gram unit should be power mixed, using an electric drill and Jiffy mixing blade.



5. Immediately pour the mix carefully into one side of the fitting, allowing the catalyzed liquid resin to displace the air. Fill to the top of the cone. Take a stiff wire strand and slowly work it up and down between the strands at several points to eliminate entrapped air.



6. At 25 °C (70 °F), Socketfast will harden in 15 minutes to the point where the socket may be removed to a more convenient area to cure completely. One hour after initial gelation, Socketfast will develop the full listed catalog break strength of the wire rope or strand. If a faster cure is required, heating the socket to 120 °C (250 °F), while using a Tempilstik to monitor the temperature, will cure the resin completely in 5 minutes. Heat the socket only: Never aim an open flame at the Socketfast. In hazardous locations, hot-water heating or low-pressure steam may be used.



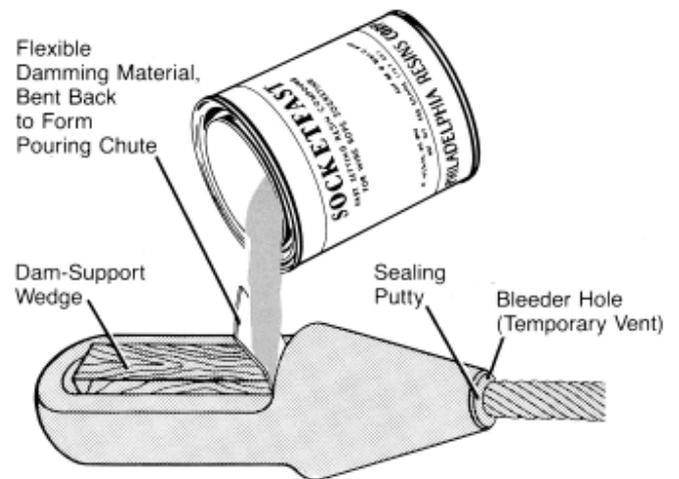
## HORIZONTAL SOCKETING

After the wire rope is prepared and cleaned as described ABOVE, and after the fitting is installed, the assembled termination is placed in a horizontal position and blocked up to align the axes of the rope and the fitting. (If a number of sockets are to be installed on a routine basis, a suitable cradle can be fabricated to simplify this alignment procedure.)

After checking the broom for uniform wire distribution, the annular space between the rope and the base of the fitting should be sealed with putty, leaving a small bleeder hole at the 12 o'clock position. This temporary vent, which later will be sealed with putty, allows air to escape during pouring of the Socketfast, thus assuring complete resin saturation of the apex of the broom.

Insert a piece of damming material, such as cardboard or other flexible gasketing material, and a wooden wedge at the larger end of the basket, as illustrated. Place the cut-to-size dam over the opening, bending back the upper portion to form a chute, and wedge it tightly in place. (For open spelter sockets, insert a pin or dowel through the ears to serve as a pressure point for the block.

**FILL THE BASKET COMPLETELY:** Continue pouring until the resin begins to come out of the bleeder hole at the base of the fitting. Then, seal that hole with putty and continue pouring until the basket is filled completely—and the level of the Socketfast in the chute remains constant. Excess material may be trimmed off after hardening, if desired.



**Date** 08/2015