



# FRITZ-PAK DELAYED SET

## TEST DATA

## 1.5 HOUR DELAY

**Location: Mesquite, Texas**

**Design Requirements: 3000 psi 28 days with 1.5 hour delay in setting time.**

<b>MIX DESIGN (per Cubic Yard)</b>		<b>Control</b>	<b>DELAYED SET</b>
Cement Type I Trinity		470 lbs	470 lbs
Fine Aggregate		1420 lbs	1420 lbs
Coarse Aggregate		1850 lbs	1850 lbs
Admixtures	<b>DELAYED SET</b>	0 oz./cwt	2 oz./cwt
Water-Cement Ratio		0.53	0.53

<b>Test Data</b>	<b>Control</b>	<b>DELAYED SET</b>
Slump	3.25"	3.75"
Air Temperature	80 °F	80 °F
Concrete Temperature	78 °F	78 °F
Initial Set (hours:mins)	3:15	4:25

Control slump was taken immediately after batching. Delayed Set was then added and mixed for 5 minutes: slump 4.75". The mixer was shut off for 1.5 hours. Then the concrete was mixed for 5 minutes and samples were made: slump 3.75".

### Compressive Strength, psi

<b>Age</b>	<b>Control</b>	<b>Delayed Set</b>	<b>% of Control</b>
3 Days	2150	2490	116%
7 Days	2950	3130	106%
28 Days	3640	3820	105%

Note: Cylinders were tested according to ASTM C-39 by Southwestern Laboratories. Compressive strength results are averages of two or more breaks.

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# FRITZ-PAK DELAYED SET

## TEST DATA 2.5 HOUR DELAY

**Location: Mesquite, Texas**

**Design Requirements: 3000 psi 28 days with 2.5 hour delay in setting time.**

<b>MIX DESIGN (per Cubic Yard)</b>		<b>Control</b>	<b>DELAYED SET</b>
Cement Type I Trinity		470 lbs	470 lbs
Fine Aggregate		1420 lbs	1420 lbs
Coarse Aggregate		1850 lbs	1850 lbs
Admixtures	<b>DELAYED SET</b>	0 oz./cwt	3.5 oz./cwt
Water-Cement Ratio		0.53	0.53

<b>Test Data</b>	<b>Control</b>	<b>DELAYED SET</b>
Slump	3"	3.5"
Air Temperature	83 °F	85 °F
Concrete Temperature	83 °F	83 °F
Initial Set (hours:mins)	3:00	5:35

Control slump was taken immediately after batching. Delayed Set was then added and mixed for 5 minutes: slump 6.25". The mixer was shut off for 2.5 hours. Then the concrete was mixed for 5 minutes and samples were made: slump 3.5".

### Compressive Strength, psi

<b>Age</b>	<b>Control</b>	<b>Delayed Set</b>	<b>% of Control</b>
3 Days	2150	2750	128%
7 Days	2950	3070	104%
28 Days	3640	3820	105%

Note: Cylinders were tested according to ASTM C-39 by Southwestern Laboratories. Compressive strength results are averages of two or more breaks.

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# FRITZ-PAK DELAYED SET

## TEST DATA

## 4 HOUR DELAY

**Location: Mesquite, Texas**

**Design Requirements: 3000 psi 28 days with 4 hour delay in setting time.**

<b>MIX DESIGN (per Cubic Yard)</b>		<b>Control</b>	<b>DELAYED SET</b>
Cement Type I Trinity		470 lbs	470 lbs
Fine Aggregate		1420 lbs	1420 lbs
Coarse Aggregate		1850 lbs	1850 lbs
Admixtures	<b>DELAYED SET</b>	0 oz./cwt	6.5 oz./cwt
Water-Cement Ratio		0.53	0.53

<b>Test Data</b>	<b>Control</b>	<b>DELAYED SET</b>
Slump	3.5"	4.25"
Air Temperature	83 °F	89 °F
Concrete Temperature	84 °F	85 °F
Initial Set (hours:mins)	3:15	7:00

Control slump was taken immediately after batching. Delayed Set was then added and mixed for 5 minutes: slump 8.5". The mixer was shut off for 4 hours. Then the concrete was mixed for 5 minutes and samples were made: slump 4.25".

### Compressive Strength, psi

<b>Age</b>	<b>Control</b>	<b>Delayed Set</b>	<b>% of Control</b>
3 Days	2150	2920	136%
7 Days	2950	3250	110%
28 Days	3640	3710	102%

Note: Cylinders were tested according to ASTM C-39 by Southwestern Laboratories. Compressive strength results are averages of two or more breaks.

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# FRITZ-PAK DELAYED SET

## TEST DATA

## 7 HOUR DELAY

**Location: Mesquite, Texas**

**Design Requirements: 3000 psi 28 days with 7 hour delay in setting time.**

<b>MIX DESIGN (per Cubic Yard)</b>		<b>Control</b>	<b>DELAYED SET</b>
Cement Type I Trinity		470 lbs	470 lbs
Fine Aggregate		1420 lbs	1420 lbs
Coarse Aggregate		1850 lbs	1850 lbs
Admixtures	<b>DELAYED SET</b>	0 oz./cwt	10 oz./cwt
Water-Cement Ratio		0.53	0.53

<b>Test Data</b>	<b>Control</b>	<b>DELAYED SET</b>
Slump	3.25"	3.75"
Air Temperature	74 °F	88 °F
Concrete Temperature	75 °F	76 °F
Initial Set (hours:mins)	3:00	10:15

Control slump was taken immediately after batching. Delayed Set was then added and mixed for 5 minutes: slump 9.5". The mixer was shut off for 7 hours. Then the concrete was mixed for 5 minutes and samples were made: slump 3.75".

### Compressive Strength, psi

<b>Age</b>	<b>Control</b>	<b>Delayed Set</b>	<b>% of Control</b>
3 Days	2150	2620	122%
7 Days	2950	3330	113%
28 Days	3640	4040	111%

Note: Cylinders were tested according to ASTM C-39 by Southwestern Laboratories. Compressive strength results are averages of two or more breaks.

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