



## Material Safety Data Sheet

Material Name: Creosote-Treated Wood

MSDS ID: STE-006

### \*\*\*Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION\*\*\*

**Material Name:** Creosote-Treated Wood

#### Manufacturer Information

Stella-Jones Corporation  
Two Gateway Center  
603 Stanwix Street, Suite 1000  
Pittsburgh, PA 15222  
Phone: 412-325-0202

CHEMTREC®: 800-424-9300 (Intl. 703-527-3887)

#### Trade Names/Synonyms

Creosote Treated Wood; Cross-ties; Switch ties; Pilings

#### Product Use

Railroad ties

### \*\*\*Section 2 - HAZARDS IDENTIFICATION\*\*\*

**NFPA Ratings:** Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

#### EMERGENCY OVERVIEW

**Physical Form:** Solid wood.

**Color:** Brown to black.

**Odor:** Tar odor.

**Health Hazards:** respiratory tract irritation, skin irritation, eye irritation, allergic reactions, central nervous system depression, and/or cancer hazard (in humans)

#### POTENTIAL HEALTH EFFECTS

##### Inhalation

**Short Term:** Creosote may cause irritation. Wood dust may cause irritation and allergic reactions. Coal tar distillate may cause irritation, difficulty breathing, headache, drowsiness, dizziness, and loss of coordination.

**Long Term:** Creosote may cause nausea, vomiting, and headache. Wood dust may cause irritation, allergic reactions, nosebleed, nausea, vomiting, loss of appetite, chest pain, difficulty breathing headache, drowsiness, dilated pupils, visual disturbances, irregular heartbeat, lung damage, liver damage, kidney damage, and nasal/sinus cancer. Coal tar distillate may cause irritation, headache, drowsiness, dizziness, and loss of coordination.

##### Skin

**Short Term:** Creosote may cause irritation, skin discoloration, skin disorders, sensitivity to sunlight, changes in body temperature, nausea, vomiting, headache, difficulty breathing, irregular heartbeat, bluish skin color and convulsions. Wood dust may cause irritation, allergic reactions, skin disorders, difficulty breathing, irregular heartbeat, headache, visual disturbances and kidney damage. Coal tar distillate may cause irritation and sensitivity to sunlight.

**Long Term:** Creosote may cause dermatitis, skin discoloration, skin disorders, sensitivity to sunlight, changes in body temperature, nausea, vomiting, headache, difficulty breathing, irregular heartbeat, bluish skin color, lung cancer, and skin cancer. Wood dust may cause irritation, allergic reactions, and skin disorders. Coal tar distillate may cause irritation, sensitivity to sunlight, and cancer.

##### Eye

**Short Term:** Creosote may cause irritation and sensitivity to sunlight. Wood dust may cause irritation and eye damage. Coal tar distillate may cause irritation and sensitivity to sunlight.

**Long Term:** Creosote may cause irritation and sensitivity to sunlight. Wood dust may cause irritation and eye damage. Coal tar distillate may cause irritation and sensitivity to sunlight.

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## Ingestion

**Short Term:** Creosote may cause irritation, nausea, vomiting, changes in body temperature, difficulty breathing, irregular heartbeat, headache, dizziness, bluish skin color, cardiovascular collapse and convulsions. Wood dust may cause nausea, vomiting, loss of appetite, difficulty breathing, irregular heartbeat, and drowsiness. Coal tar distillate may cause irritation, nausea, stomach pain, headache, drowsiness, dizziness, loss of coordination, and coma.

**Long Term:** Creosote may cause irritation, nausea, vomiting, headache, gastrointestinal effects, dizziness, changes in body temperature, visual disturbances, difficulty breathing irregular heartbeat, bluish skin color, and cardiovascular collapse. No information is available for wood dust. Coal tar distillate may cause headache, drowsiness, dizziness, loss of coordination, and coma.

## OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### \*\*\*Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS\*\*\*

CAS	Component	Percent
Not Available	Creosote treated wood	100
Not Available	Oak and various hardwoods	90
8001-58-9	Creosote	6
65996-92-1	Coal tar distillate	4

## Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Wood dusts-hard wood, Wood dust, all soft and hard woods, Wood dusts (all other wood dusts), Wood dusts, birch, mahogany, teak, walnut, Creosotes.

### \*\*\*Section 4 - FIRST AID MEASURES\*\*\*

## Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

## Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. DO NOT rub until skin is free of sawdust and preservative material. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

## Eyes

Flush eyes with plenty of water for at least 15 minutes. DO NOT rub eyes. Then get immediate medical attention.

## Ingestion

If a large amount is swallowed, get medical attention.

### \*\*\*Section 5 - FIRE FIGHTING MEASURES\*\*\*

See Section 9 for Flammability Properties

## Flammable Properties

Slight fire hazard. Dust/air mixtures may ignite or explode.

## Extinguishing Media

Use carbon dioxide, regular dry chemical, regular foam or water.

## Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

## Fire Fighting Measures

Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Use extinguishing agents appropriate for surrounding fire.

## Hazardous Combustion Products

**Combustion:** aliphatic aldehydes, oxides of carbon, oxides of nitrogen, polycyclic aromatic hydrocarbons (PAHs), and/or resin acids.

## Sensitivity to Mechanical Impact

Not sensitive.

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## Sensitivity to Static Discharge

Yes (dust).

### \*\*\*Section 6 - ACCIDENTAL RELEASE MEASURES\*\*\*

## Occupational Spill / Release

Collect debris and used material in appropriate container for disposal. Avoid generating dust. Clean up residue with a high-efficiency particulate filter vacuum.

### \*\*\*Section 7 - HANDLING AND STORAGE\*\*\*

## Handling Procedures

Follow good hygienic and housekeeping practices. Clean-up areas where wood dust settles to avoid excessive accumulation of this combustible material. Minimize practices that generate airborne dust. Avoid repeated or prolonged breathing of treated wood dust. Use methods to minimize dust. When possible, conduct dust-generating activities outdoors to avoid indoor accumulations of airborne dust from treated wood. Avoid prolonged or repeated skin contact with this material. When handling treated wood, wear washable or disposable coveralls or long-sleeved shirt and long pants, chemical resistant gloves, and socks plus industrial grade safety boots with chemical resistant soles. To reduce sun sensitivity, a sun-blocking lotion (SPF15+) can also be applied. Wash thoroughly after skin contact, before eating, drinking, chewing gum, using tobacco products or using restrooms. Remove and wash contaminated clothing before reuse.

## Storage Procedures

Store in accordance with all current regulations and standards. Store outdoors. Store creosote treated wood off of the ground, protected from weather. While at the job site, cover with plastic tarps, allowing for adequate air circulation. Keep in a cool, dry place away from open flame. Treated wood is intended for exterior/outdoor uses only.

### \*\*\*Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION\*\*\*

## Component Exposure Limits

### Oak and various hardwoods (Not Available)

<b>ACGIH:</b>	1 mg/m3 TWA (inhalable fraction, related to Wood dusts (all other wood dusts))
<b>OSHA (Vacated):</b>	5 mg/m3 TWA (related to Wood dust, all soft and hard woods) 10 mg/m3 STEL (related to Wood dust, all soft and hard woods)
<b>NIOSH:</b>	1 mg/m3 TWA (related to Wood dust, all soft and hard woods)
<b>Alberta:</b>	5 mg/m3 TWA (total, related to Wood dust, all soft and hard woods)
<b>Manitoba:</b>	1 mg/m3 TWA (all other species, inhalable fraction, related to Wood dust, all soft and hard woods)
<b>New Brunswick:</b>	1 mg/m3 TWA (related to Wood dusts-hard wood)
<b>Newfoundland &amp; Labrador:</b>	1 mg/m3 TWA (all other species, inhalable fraction, related to Wood dust, all soft and hard woods)
<b>NW Territories:</b>	5 mg/m3 TWA (related to Wood dust, all soft and hard woods) 10 mg/m3 STEL (related to Wood dust, all soft and hard woods)
<b>Nova Scotia:</b>	1 mg/m3 TWA (all other species, inhalable fraction, related to Wood dust, all soft and hard woods)
<b>Nunavut:</b>	5 mg/m3 TWA (related to Wood dust, all soft and hard woods) 10 mg/m3 STEL (related to Wood dust, all soft and hard woods)
<b>Ontario:</b>	1 mg/m3 TWA (related to Wood dusts-hard wood)
<b>Prince Edward Island:</b>	1 mg/m3 TWA (all other species, inhalable fraction, related to Wood dust, all soft and hard woods)
<b>Quebec:</b>	5 mg/m3 TWAEV (total dust, except red cedar, containing no Asbestos and <1% Crystalline silica, related to Wood dust, all soft and hard woods)

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- Saskatchewan:** 1 mg/m<sup>3</sup> TWA (related to Wood dusts-hard wood)  
3 mg/m<sup>3</sup> STEL (related to Wood dusts-hard wood)  
Potential sensitizer (including but not limited to ash, aspen/poplar/cottonwood, beech, oak and certain tropical woods including but not limited to Abirucana, African zebra, Antiaris, Cabreuva, Cedar of Lebanon, Central American walnut, Cocabolla, African ebony, Fernam bouc, Honduras rosewood, Iroko or kambala, Kejaat, Kotobe, Limba, Mahogany (African), Makore, Mansonia/Bete, Nara, Obeche/African maple/Samba, Palisander/Brazilian rosewood/Tulip wood/Jakaranda, Pau marfim, Ramin, Soapbark dust, Spindle tree wood, Tanganyike aningre, related to Wood dusts-hard wood)
- Yukon:** 5 mg/m<sup>3</sup> TWA (non-allergenic); 2.5 mg/m<sup>3</sup> TWA (allergenic, including cedar, mahogany, teak, related to Wood dust, all soft and hard woods)  
10 mg/m<sup>3</sup> STEL (non-allergenic); 5 mg/m<sup>3</sup> STEL (allergenic, including cedar, mahogany, teak, related to Wood dust, all soft and hard woods)

## Coal tar pitches (65996-93-2)

- ACGIH:** 0.2 mg/m<sup>3</sup> TWA (as benzene soluble aerosol)  
**OSHA (Final):** 0.2 mg/m<sup>3</sup> TWA (benzene soluble fraction)  
**OSHA (Vacated):** 0.2 mg/m<sup>3</sup> TWA (benzene soluble fraction)  
**NIOSH:** 0.1 mg/m<sup>3</sup> TWA (Cyclohexane-extractable fraction)  
**Alberta:** Designated substance - requires code of practice  
0.2 mg/m<sup>3</sup> TWA (as Benzene solubles)
- British Columbia:** 0.2 mg/m<sup>3</sup> TWA (as Benzene-soluble aerosol)  
**Manitoba:** 0.2 mg/m<sup>3</sup> TWA (as Benzene soluble aerosol)  
**New Brunswick:** 0.2 mg/m<sup>3</sup> TWA (as Benzene solubles)  
**Newfoundland & Labrador:** 0.2 mg/m<sup>3</sup> TWA (as Benzene soluble aerosol)  
**NW Territories:** 0.2 mg/m<sup>3</sup> TWA (as Benzene solubles)  
0.6 mg/m<sup>3</sup> STEL (as Benzene solubles)
- Nova Scotia:** 0.2 mg/m<sup>3</sup> TWA (as Benzene soluble aerosol)  
**Nunavut:** 0.2 mg/m<sup>3</sup> TWA (as Benzene solubles)  
0.6 mg/m<sup>3</sup> STEL (as Benzene solubles)
- Ontario:** 0.2 mg/m<sup>3</sup> TWA (as total Benzene-soluble compounds)  
**Prince Edward Island:** 0.2 mg/m<sup>3</sup> TWA (as Benzene soluble aerosol)  
**Quebec:** 0.2 mg/m<sup>3</sup> TWAEV (as Benzene solubles)  
**Saskatchewan:** 0.2 mg/m<sup>3</sup> TWA (as Benzene soluble aerosol)  
0.6 mg/m<sup>3</sup> STEL (as Benzene soluble aerosol)

## Ventilation

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

## PERSONAL PROTECTIVE EQUIPMENT

### Eyes/Face

Wear safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

### Protective Clothing

Wear appropriate chemical resistant clothing. Wear washable or disposable coveralls or long-sleeved shirt and long pants. Wear socks plus industrial grade safety boots with chemical resistant soles.

### Glove Recommendations

Wear appropriate chemical resistant gloves.

### Respiratory Protection

If the applicable TLVs and/or PELs are exceeded, use canister or cartridge respirators, which are MSHA/NIOSH-approved, with high-efficiency particulate filters.

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## \*\*\*Section 9 - PHYSICAL AND CHEMICAL PROPERTIES\*\*\*

<b>Physical State:</b>	Solid	<b>Appearance:</b>	Brown to black rail ties and cross ties
<b>Color:</b>	Brown to black.	<b>Physical Form:</b>	Solid wood.
<b>Odor:</b>	Tar odor.	<b>Odor Threshold:</b>	Not available
<b>pH:</b>	Not applicable	<b>Melting Point:</b>	Not available
<b>Boiling Point:</b>	Not applicable	<b>Flash Point:</b>	Not applicable
<b>Decomposition:</b>	Not available	<b>Evaporation Rate:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable	<b>Vapor Density (air = 1):</b>	Not applicable
<b>Density:</b>	Not available	<b>Specific Gravity (water = 1):</b>	Not available
<b>Water Solubility:</b>	Not available	<b>Coeff. Water/Oil Dist:</b>	Not available
<b>Viscosity:</b>	Not applicable	<b>VOC:</b>	Not applicable

## \*\*\*Section 10 - STABILITY AND REACTIVITY\*\*\*

### Chemical Stability

Stable at normal temperatures and pressure.

### Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

### Materials to Avoid

Avoid acids and oxidizing materials.

### Hazardous Decomposition

**Combustion:** Decomposition products include oxides of carbon and oxides of nitrogen.

### Hazardous Decomposition

**Combustion:** aliphatic aldehydes, oxides of carbon, oxides of nitrogen, polycyclic aromatic hydrocarbons (PAHs), and/or resin acids.

### Possibility of Hazardous Reactions

Will not polymerize.

## \*\*\*Section 11 - TOXICOLOGICAL INFORMATION\*\*\*

### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

#### Creosote (8001-58-9)

Oral LD50 Rat 2524 mg/kg

### Acute Toxicity Level

#### Creosote (8001-58-9)

**Moderately Toxic:** ingestion

### Local Effects

#### Creosote (8001-58-9)

**Irritant:** inhalation, skin, eye

#### Coal tar distillate (65996-92-1)

**Irritant:** inhalation, skin

### Carcinogenicity

#### Component Carcinogenicity

##### Oak and various hardwoods (Not Available)

**ACGIH:** A1 - Confirmed Human Carcinogen (related to Wood dusts-hard wood)

**IARC:** Monograph 100C [in preparation]; Monograph 62 [1995] (Group 1 (carcinogenic to humans), related to Wood dust, all soft and hard woods)

**NTP:** Known Human Carcinogen (related to Wood dust, all soft and hard woods)

**OSHA:** Present (related to Wood dust, all soft and hard woods)

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## Creosote (8001-58-9)

**IARC:** Monograph 92 [2010]; Supplement 7 [1987]; Monograph 35 [1985] (Group 2A (probably carcinogenic to humans))

**OSHA:** Present

## Medical Conditions Aggravated by Exposure

Medical conditions include respiratory disorders, skin disorders, and/or allergies.

### \*\*\*Section 12 - ECOLOGICAL INFORMATION\*\*\*

## Component Analysis - Aquatic Toxicity

### Creosote (8001-58-9)

**Fish:** 96 Hr LC50 Brachydanio rerio: 2.6 - 6.6 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.57 mg/L [static]

**Invertebrate:** 48 Hr EC50 Daphnia magna: 1.04 mg/L; 48 Hr EC50 Daphnia magna: 0.065 - 0.082 mg/L [Static]

### \*\*\*Section 13 - DISPOSAL CONSIDERATIONS\*\*\*

## Disposal Methods

Dispose of in an approved landfill according to Federal, State, Provincial, and local regulations.

## Component Waste Numbers

### Creosote (8001-58-9)

**RCRA:** waste number U051

### \*\*\*Section 14 - TRANSPORT INFORMATION\*\*\*

## US DOT Information

Not regulated.

## US DOT Reportable Quantities

### Creosote (8001-58-9)

1 lb RQ; 0.454 kg RQ

## TDG Information

Not regulated.

### \*\*\*Section 15 - REGULATORY INFORMATION\*\*\*

## U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

### Creosote (8001-58-9)

**SARA 313:** 0.1 % de minimis concentration

**CERCLA:** 1 lb final RQ; 0.454 kg final RQ

## SARA 311/312

**Acute Health:** Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

## U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Oak and various hardwoods ( <sup>1</sup> related to: Wood dust, all soft and hard woods) ( <sup>2</sup> related to: Wood dusts-hard wood)	Not Available	No	No	Yes <sup>1</sup>	Yes <sup>1</sup>	Yes <sup>2</sup>	Yes <sup>1</sup>
Creosote ( <sup>1</sup> related to: Creosotes)	8001-58-9	Yes	Yes	Yes <sup>1</sup>	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

## WHMIS Classification

Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

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## Government Inventories

### U.S. Inventory (TSCA)

This product is exempt.

### Canadian Inventory

This product is exempt.

## Component Analysis - Inventory

Component	CAS	US	CA
Creosote	8001-58-9	Yes	DSL
Coal tar pitches	65996-93-2	Yes	DSL
Coal tar distillate	65996-92-1	Yes	NSL

## \*\*\*Section 16 - OTHER INFORMATION\*\*\*

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CPR - Controlled Products Regulations; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IARC - International Agency for Research on Cancer; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; Kow - Octanol/water partition coefficient; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; RCRA - Resource Conservation and Recovery Act; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

### Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. Read the Material Safety Data Sheet before handling product.

End of Sheet STE-006

# Fasteners



## Track Spikes

All spikes are manufactured to AREMA and ASTM standards with reinforced throat, chisel point and square body.

*Size	Item Number	Per Keg of 100 lbs	**Per Mile of Track	Per Yard
3/8" x 2-1/2"	065705	735	14.36	12 to 20
3/8" x 3"	44548	620	17.05	12 to 20
3/8" x 3-1/2"	42828	568	18.58	12 to 20
1/2" x 4-1/2"	42720	247	42.75	30 to 40
9/16" x 5-1/2"	31754	161	65.58	65 to 100
5/8" x 5-1/2"	38214	132	80.01	75 to 140
5/8" x 6"	30859	120	88	75 to 140

\*Measured under head.

\*\*Based on ties spaced 24" center to center, 4 spikes per tie.

50 lb. & 200 lb. Kegs also available



## Lock Washer

### 3/8" Square

Size	Item Number
3/4"	081126
7/8"	081127
15/16"	6383
1"	081125
1-1/16"	6379
1-1/8"	081124
1-3/8"	35212

### AREMA 67

Size	Item Number
3/4"	081123
7/8"	081122
15/16"	083424
1"	080936
1-1/16"	083426
1-1/8"	081120
1-3/8"	082014



## Track Bolts

Bolts are manufactured to AREMA specifications with button head, oval neck and rolled thread. Heavy duty lock or spring washers are available from stock in 3/4", 7/8", 15/16", 1", 1-1/16" & 1-1/8".



Track Bolt Size	Item Number	Avg. No. Per Keg of 50 lbs.	*Kegs Per Mile of Track	Rail Weight Per Yard
1/2" x 2-1/2"	37691	208	6.73	20 to 25
5/8" x 2-1/2"	36971	128	10.93	30 to 40
5/8" x 3"	37692	115	12.04	30 to 40
3/4" x 3"	37886	75	18.68	40 to 45
3/4" x 3-1/2"	36503	67	20.9	50 to 60
3/4" x 4"	36258	62	22.56	70 to 75
7/8" x 4-1/2"	36259	41	34.16	85 to 90
7/8" x 5"	36260	38	42.72	90 to 100
7/8" x 5-1/2"	36502	37	43.9	90 to 100
15/16" x 5-1/4"	37346	33	49.22	90 to 100

Track Bolt Size	Item Number	Avg. No. Per Keg of 50 lbs.	*Kegs Per Mile of Track	Rail Weight Per Yard
15/16" x 5-1/2"	39393	31	52.4	90 to 100
1" x 5"	36966	28	58	90 to 100
1" x 5-1/2"	36100	27	60.15	110 to 130
1" x 5-3/4"	42507	27	60.17	110 to 130
1" x 6"	36099	25	64.96	131 to 140
1-1/16" x 6"	37766	24	67.66	131 to 140
1-1/16" x 6-1/4"	36501	22	73.83	131 to 140
1-1/8" x 6"	36377	19	85.49	131 to 140
1-1/8" x 6-1/2"	36967	18	89.83	131 to 140

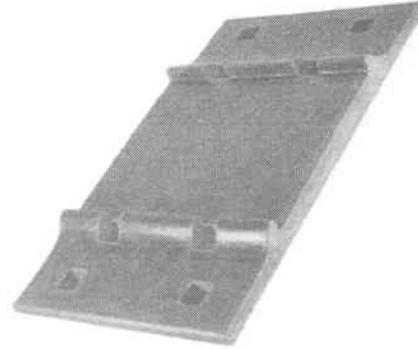
\*Kegs per mile of track - based on 30'-10% shorts for 60 lb. rails and lighter; and 33'-10% shorts for 70 lb. rails and heavier, and all joints 4-hole punching.



## Connectors



Single Shoulder



Double Shoulder

### AREA Tie Plates

Type	Shoulders	Holes	AREA*	Size	Rail Base
DS3	2	4 to 8	Plan 3	7-3/4x12	5-1/2
→ DS7	2	4 to 8	Plan 7	7-3/4x13	5-1/2
DS8	2	4 to 8	Plan 8	7-3/4x14	5-1/2
DS11	2	4 to 8	Plan 11	7-3/4x13	6
DS12	2	4 to 8	Plan 12	7-3/4x14	6
DS13	2	4 to 8	Plan 13	7-3/4x14-3/4	6

\*Detailed drawings available.

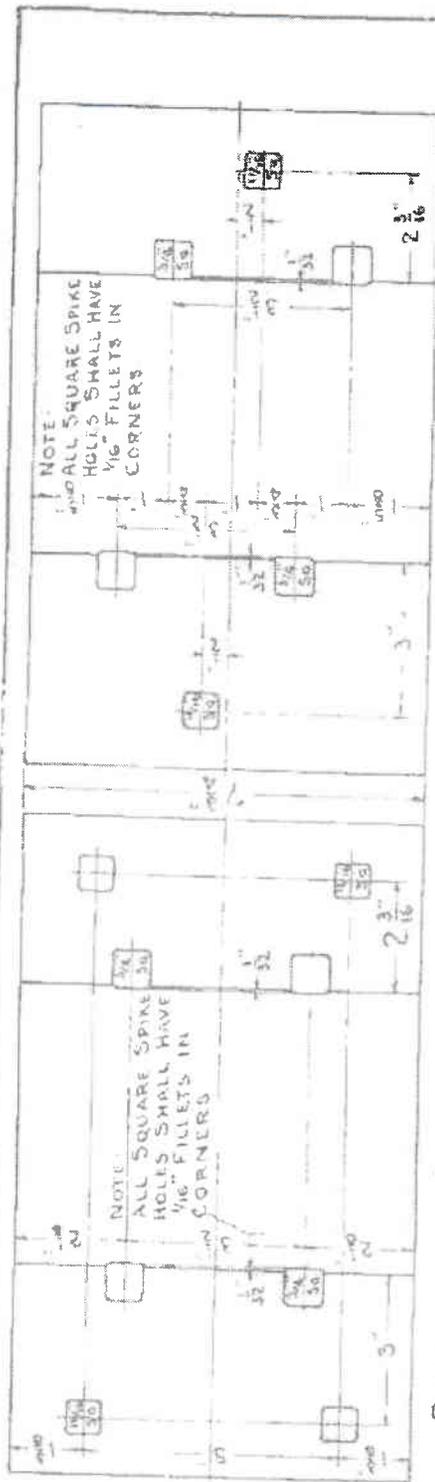
Blue print indicates manufactured as of 1997.

### Industrial Tie Plates

Type	Shoulder(s)	Holes	Sketch	Size	Rail Base
SSI	1	Minimum 3	Yes	Varies	Any
DSI	2	4 to 8	Yes	7-1/2x11	5-1/2

All dimensions are in inches.

7 3/4" X 13"



\*ESTIMATED WEIGHTS

PER FOOT	31.84 LB.
PER 7 3/4 IN.	20.56 LB.
PUNCHED 8 SPIKE HOLES	19.60 LB.
PUNCHED 6 SPIKE HOLES	19.74 LB.
PUNCHED 4 SPIKE HOLES	19.89 LB.

\*ADD 34 LB TO FOOT WEIGHT AND 22 LB. TO FIN. WEIGHTS WHEN SUPPLIED WITH RIBS

PUNCHING A - 8 SPIKE HOLES  
 PUNCHING C - 4 LINE SPIKE HOLES OF PUNCHING A.  
 PUNCHING D - 4 LINE SPIKE HOLES OF PUNCHING B.  
 DISTANCE  $\frac{1}{4}$  TO  $\frac{1}{2}$  HOLD DOWN SPIKE HOLES 4 1/2" INSTEAD OF 5" WHEN SPECIFIED.  
 ROUND MAY BE SUBSTITUTED FOR SQUARE HOLD DOWN SPIKE HOLES.



SECTION WITH RIBS SUPPLIED WHEN SPECIFIED.

AREA PLAN No. 7  
 13 IN. TIE PLATE  
 5 1/2 IN. RAIL BASE