

# SYNSTEEL®



**REDWOOD  
PLASTICS**

[www.redwoodplastics.com](http://www.redwoodplastics.com)

## INTRODUCTION

Redwood Plastics Corporation has been manufacturing and distributing quality plastic products for more than fifteen years. An integral part of our organization is the innovative, maintenance saving ideas, concepts and products developed by our employees, in partnership with you, the customer.

SYNSTEEL is a "pulp safe" UHMW/PE engineered specifically for the pulp and paper industry. SYNSTEEL was developed as a result of concerns with plastic contamination in the chip supply. Our research of the pulp and paper industry found the criteria for determining a "pulp safe" material to vary from mill to mill. However, the industry generally agreed that any one, or all, of the following are necessary in the determination of a "pulp safe" material.

SPECIFIC GRAVITY GREATER THAN 1  
MELT POINT GREATER THAN 160° C  
ACTIVATES METAL DETECTOR / IS ATTRACTED TO A MAGNET

**SYNSTEEL** meets or exceeds all of the above criteria:

SPECIFIC GRAVITY	.2.00
MELT POINT	>180°C
ACTIVATES METAL DETECTOR	YES
IS ATTRACTED TO A MAGNET	YES

Synsteel has twice the compressive strength of UHMW, much improved dimensional stability, and an increased abrasion resistance. This has all combined to produce an unprecedented wear-resistant material. In application, we have found Synsteel to out-perform UHMW 3 to 1, and in some instances by as much as 20 to 1. The forest industry can now look to SYNSTEEL to provide all the advantages of UHMW, and more, without the concern of plastic contamination.

## ADVANTAGES

In addition to the pulp safe characteristics, Redwood Plastics Corporation worked to increase the dimensional stability and wear resistance of SYNSTEEL.

We have made the following improvements over conventional UHMW/PE:

TWICE THE COMPRESSIVE STRENGTH  
COEFFICIENT OF THERMAL EXPANSION REDUCED BY 25%  
ELONGATION REDUCED FROM 300% to 60%  
UV STABILIZED (will not break down in sunlight)  
IMPROVED ABRASION RESISTANCE

We have maintained the following advantages inherent to UHMW/PE:

LOW COEFFICIENT OF FRICTION  
LIGHT WEIGHT (1/4 the weight of steel)  
SOUND DAMPENING  
NO MOISTURE ABSORPTION  
CORROSION AND CHEMICAL RESISTANT  
EASILY MACHINED, DRILLED, SAWED, PLANED OR FABRICATED

## TYPICAL APPLICATIONS

### WEAR STRIP UNDER CHAIN

- a) debarker infeed and outfeed wearstrip
- b) hog fuel handling and conveyor systems
- c) chip handling and conveyor systems
- d) sharp chain wearstrip
- e) miscellaneous wearstrip for wood, chip and sawdust conveying

### CHIP AND SAWDUST CYCLONE LINERS

### CHIP, SAWDUST, AND HOG FUEL BIN LINERS

### FLAT BACKS ON BLOW SYSTEMS

### RESAW LINE BARS

### CHIP SCREENS

### CONVEYOR FLYTES (conveyor buckets)

### CHIPPER INFEED SPOUTS (as final transition on vibrating conveyors)

Due to its outstanding wear and abrasion resistance, SYNSTEEL has been considered for many applications outside the forest industry. SYNSTEEL has been used successfully as chute and bin liners for the grain and mining industries, mast guides on forklifts, and shaft support bearings in the agriculture industry, to name just a few.

## AVAILABILITIES

PLATE:	DIMENSION	THICKNESS
	48" × 120"	1/4" – 4"
	60" × 120"	3/8" – 5/8"
	60" × 144"	3/4" – 2 1/4"
	52" × 104"	3/4" – 1"
	52" × 128"	3/4" – 2 1/4"

STRIP:	3/8" × 3"	1/2" × 3"	1/2" × 4"
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### PROFILES:

**R-3967SYN**



REDCO 454 CHANNEL INSERT  
H78 Fabricated Chain

**R-5007SYN**



REDCO 81X CHANNEL

**R-9087SYN**



REDCO 81X HIGH-SIDE CHANNEL

**R-10148SYN**



REDCO H78 CHANNEL  
H78, HD78, MO88, MOH578, C188

**R-4540SYN**



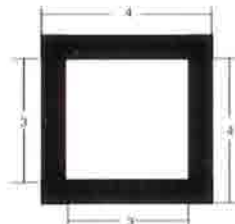
REDCO H82 CHANNEL  
H82, WR78HD, WR82

**R-4255SYN**



REDCO FLYTE PROFILE FOR  
PRESS OVER 1x3 1/2 FLAT BAR

**R-4151SYN**

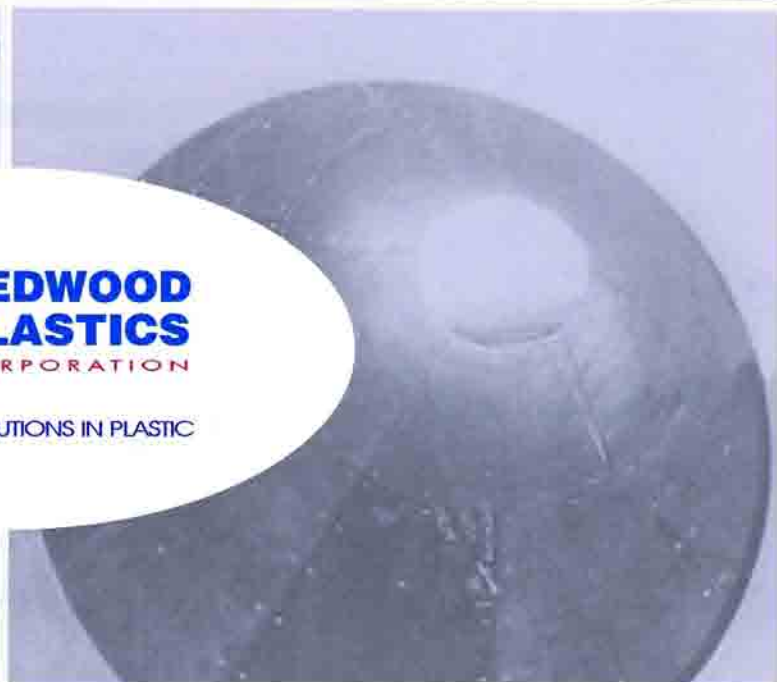
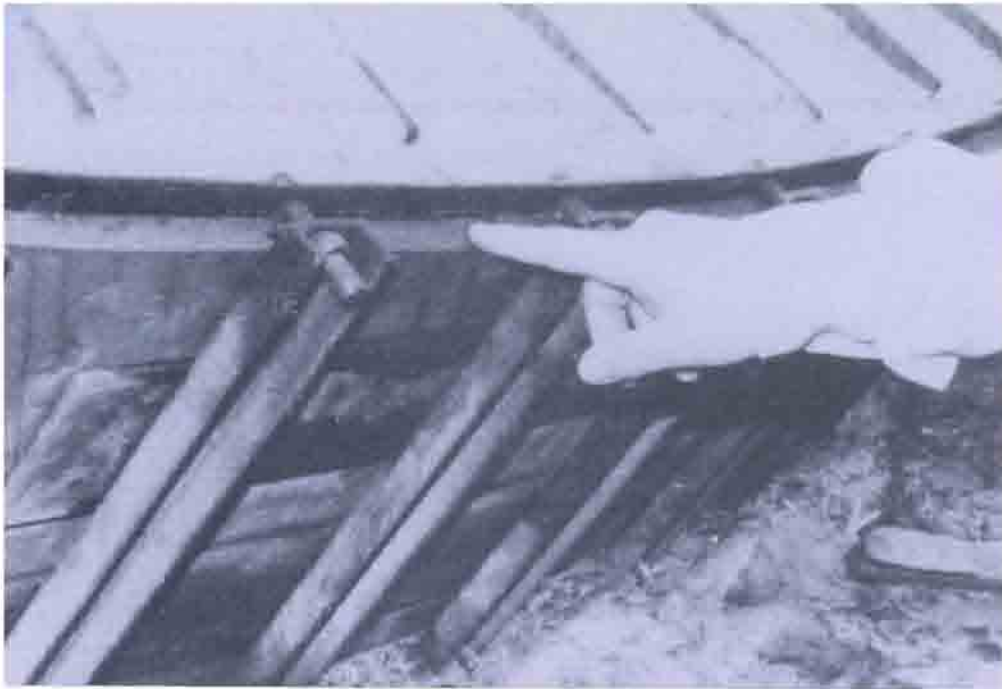


REDCO FLYTE PROFILE FOR  
PRESS OVER 3x3 STRUCTURAL STEEL

## TYPICAL PHYSICAL PROPERTIES of “SYNSTEEL”

as tested by BACON, DONALDSON & ASSOCIATES LTD.

<b>Test Designation</b>	<b>Test Method</b>	<b>Typical Value</b>
Tensile Properties	ASTM 638	
Maximum strength P.S.I.		2150
Yield Strength P.S.I.		1680
Elongation at Break%		59
Compressive strength P.S.I.	ASTM D659	3057 at 1% offset
Flexural strength P.S.I.	ASTM 695	2300
Hardness Rockwell R scale	ASTM D785	R 54
Hardness D Durometer scale		D 65
Co-efficient of friction against Chromium plate steel-static		.205
Co-efficient of linear expansion between 0° and 100° C.		166 micro inch/ inch/O <sub>C</sub>
Specific gravity determined by displacement of water of water and weight method		2.00



**REDWOOD  
PLASTICS**  
CORPORATION

INNOVATIVE SOLUTIONS IN PLASTIC

## CUSTOM DESIGN & FABRICATION

(Please Refer to Our Website or Catalogue for Physical Properties, and Specifications)

Contact Your Local Representative Today

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