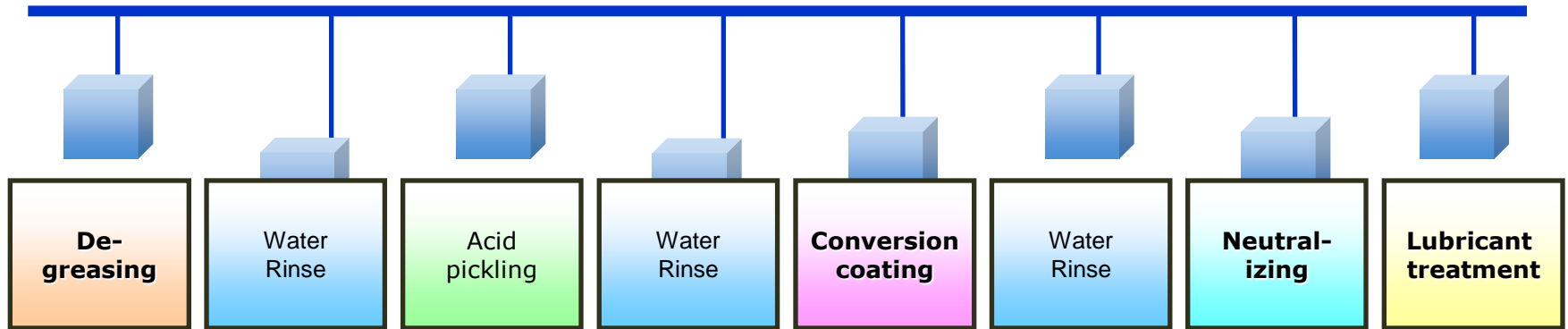


"Parker Ultimate Lubricant System (PULS)"

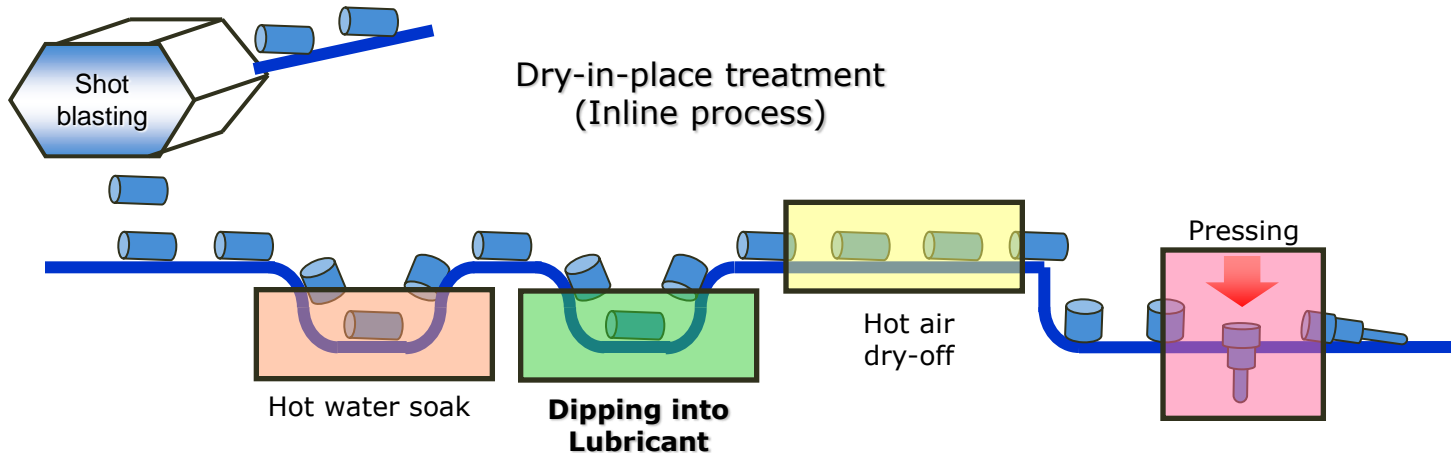
Bonderizing alternative system for cold forging

Process

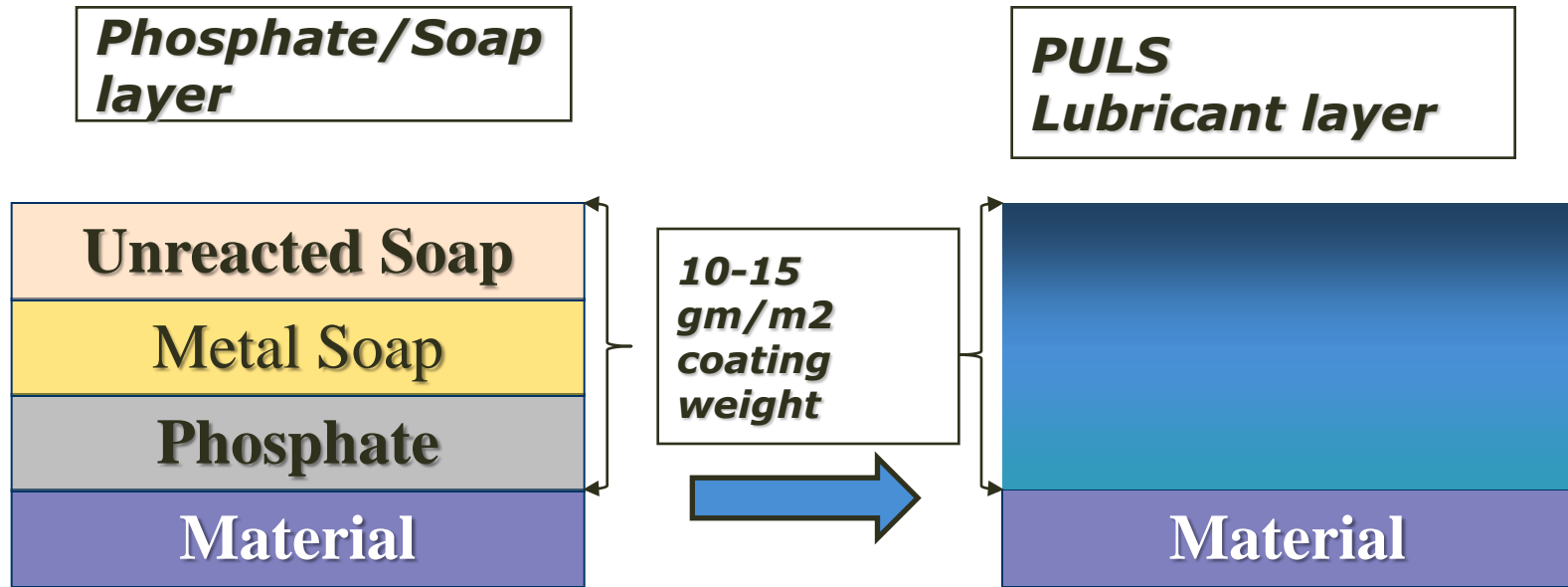
Conversion coating for friction control and abrasion resistance



New treatment for cold forging (PULS)



Coating Structure



Puls form same layer of lubricity which is formed by Phosphate and Soap together which is require for Forging

Benefits of PULS

Puls reduce almost 80-85 % working area as compare with Conversion coating

Conversional Coating require 30-35 min for whole process however Puls require only 3-5 mins.

Testing and control

Conversional Phosphate



- 1. Degrease (T.Al)***
- 2. Acid Pickling (T.A)***
- 3. Phosphate
(TA,FA,ACC)***
- 4. Soap (Conc. FA)***

PULS



- 1. PULS (EC)***

50-60% Temperature Reduction during process

Conversional Phosphate



- 1. Degrease (50-60 ° c)***
- 2. Acid Pickling (RT)***
- 3. Phosphate (70-80 ° c)***
- 4. Soap (70-80 ° c)***

PULS



- 1. Hot Water (50-60 ° c)***
- 2. PULS (50-60 ° c)***

100 % Sludge Reduction in Process

Conversional Phosphate



- 1. Phosphate
(3-4 gms /m2 sludge
generation)***

PULS



- 1. PULS***
- 2. (No sludge generation)***

Frequently Discard Chemicals

Conversional Phosphate



- 1. Degrease (1/W)***
- 2. Soap (1/W)***
- 3. Acid Pickling (1/W)***

PULS



- 1. PULS
(No Discard Require)***

100 % Daily Water Consumption reduce

Conversional Phosphate



- 1. WR after Degrease**
- 2. WR after Acid Pickling**
- 3. WR After Phosphate**

PULS



- 1. Only Hot water rinse which is not continues.**

Continues Water discard is not require so No extra load on ETP

Sr.No	Items	Conversion Coating	PULS
1	Lubricity	Good	Good
2	Process Length	Long	Very Short
3	Process time	Long	Very Short
4	Chemical control	Complicated	Easy
5	Temperature	High temp. requirement	Less temp. requirement
6	Sludge	Heavy sludge	No Sludge
7	Waste to ETP	Heavy waste	No Waste



**100 % Environmental
Friendly**

Thank
you