

# Metals Industry White Paper

---

## Why General ERP Isn't Enough



Revision 1.5

# The Metals Industry

## Why General ERP Isn't Enough

When metal distributors and fabricators both large and small go looking for software solutions they invariably investigate ERP products, as well they should. Why is it then that ERP solutions generally fall flat when presented with the business requirements of this industry segment? This White Paper answers that question and hopefully achieves two primary goals. The first is to introduce the business requirements of this unique industry and outline why generic ERP just isn't enough. The second goal is to provide insight into how Verticent **ERP Plus™** can address the unique requirements of this industry segment with its integrated and comprehensive applications.

The unique nature of metals products means that inventory information is critical. Attributes, or specifications, including heat, width, length, gauge and grade must be precisely tracked. Detailed information on chemical and physical properties must be recorded and evaluated by these businesses. Tracking of inventory up and down the supply chain, including lot, heat, tag and certifications is also vital. This inventory information, and how it is used to optimize operations, is often a major stumbling block of a general ERP solution provider. For example, when companies in the metals industry approach mainstream, or general, ERP providers and ask for solutions to managing down costing of drops and remnants, they are often met with a blank stare. At Verticent, this unique inventory requirement found in the metals industry, as well as the others, are addressed within the **ERP Plus™** application suite.

The following pages outline what business processes an ERP solution in a metals environment must deliver, and it answers several key questions.

***Do I have the inventory to meet the customer's specifications and quantity?  
Where did this material come from and where did it go?  
Inventory is my biggest asset...How can I manage it better to improve profitability?  
How can I more efficiently meet my customer's demand?***

This paper should help companies involved in the metals products industry to identify the unique and important requirements needed within an enterprise solution.

**Do I have the inventory to meet the customer's specifications and quantity?**

Parsed Item Lookup allows for effective item searches down to the piece level. It efficiently displays attributes you define such as Gauge, Width, Length, Heat No., Schedule, ID and OD. This places quality inventory information just a few mouse clicks away. Adding advanced sorting and filtering capabilities and the exact piece of inventory can be identified in seconds.

When the stock on hand can't satisfy the requirements for the order, you can quickly view material on order and see when it will arrive, and what the specification and attributes are. If you don't have stock on hand or on order you don't have to wait until MRP generates an action message, because you can create a requisition order on the fly and move on to the next order line.

What if you don't stock the item the customer is requesting, or have never purchased the item? Buyouts can be handled quickly without disrupting the normal order flow. These buyouts can be drop shipped directly from the supplier to the end customer or sub-contractor if outside value added services are being performed.

**Parse Item**

Commodity Description: PPE6061 ALUMINUM PIPE  
Commodity: 6061P  
Commodity Inquiry

DD(2,3): %  
SCHEDULE(4,0):  
TEMP-FINISH(6,0):

Resource	Description	Dist On Hand	Mfg On Hand	Po Avail	Inv Avail
061P00500STD-T6---	1/2 STD 6061 ALUM PIPE	269.00	26999.0	0	0
061P00500XH-T6---	1/2 XH 6061 ALUM PIPE				
061P00750STD-T6---	3/4 STD 6061 ALUM PIPE				
061P01000STD-T6---	1 STD 6061 ALUM PIPE				
061P01000XH-T6---	1 XH 6061 ALUM PIPE				
061P01250S160T6---	1-1/4" S160 6061-T6 PIPE				
061P01250STD-T6---	1-1/4 STD 6061 ALUM PIPE				
061P01250XH-T6---	1-1/4 XH 6061 ALUM PIPE				
061P01500STD-T6---	1-1/2 STD 6061 ALUM PIPE				
061P01500XH-T6---	1-1/2 XH 6061 ALUM PIPE				
061P02000STD-T6---	2 STD 6061 ALUM PIPE				
061P02000XH-T6---	2 XH 6061 ALUM PIPE				
061P02500STD-T6---	2-1/2 STD 6061 ALUM PIPE				
061P02500XH-T6---	2-1/2 XH 6061 ALUM PIPE				
061P03000STD-T6---	3 STD 6061 ALUM PIPE				

**Material Selection**

061P00500STD-T6--- 1/2 STD 6061 ALUM PIPE

Ship Loc: GRW Name: Test

Onhand	Total Reserved	Qty Avail
269.99	1530	269.00

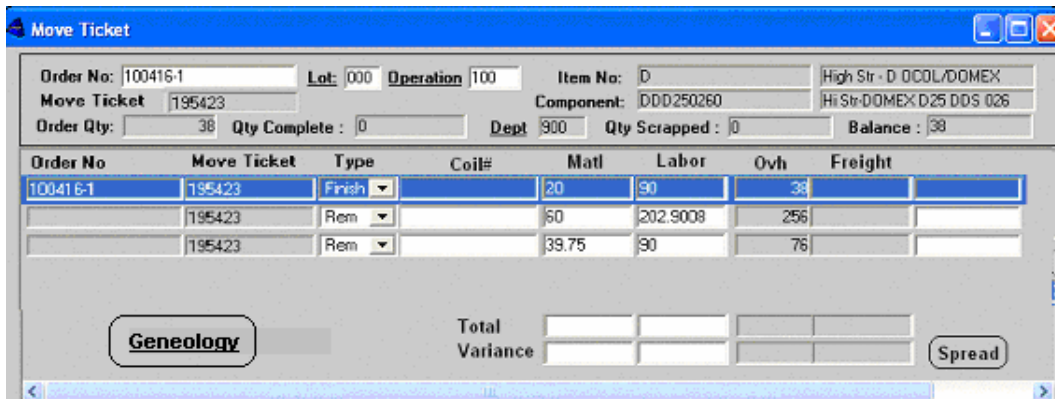
Move Ticket	Note	Pieces	Thick Dia	length	Qty Avail	Qty On Hand	Qty Reserved	Qty Allocated	Heat Number	Spec	Piece weight
195433		101.000	144.000	0	1440			1440	1234		144
195429		1831.000	144.000	26262	26352	90		0	1234		144
195470		11.000	53.750	54	54				1234		53.75
195463		51.000	53.750	269	269				1234		53.75
195459		21.000	53.750	108	108				1234		53.75
195455		11.000	53.750	54	54				1234		53.75
195467		21.000	53.750	108	108				1234		53.75
195471		11.000	53.750	54	54				1234		53.75

Buttons: Find, Layout, PO, View Move History, Close

While general ERP solutions may offer a method of determining inventory availability, only **ERP Plus™** allows for user definable attributes to be associated and validated for each item and each piece of stock within that item's inventory. These attributes can be quantity based with minimum, maximum and actual values for dimensional needs like width, length and gauge. The attribute can also be a predefined set such as Hex, Square, Rectangle, or Irregular used to define shape of the product.

***Where did this material come from and where did it go?***

Metal processors and service centers need to trace the ancestry of an inventory tag from Purchase Order Receipt, to Customer Deliver Ticket. This is not a nicety but a must have requirement. It is invaluable to be able to enter a Master Tag Number or Heat Number and see every piece produced from the master tag along with what processes were performed, at what cost; while also providing details as to who purchased the piece, when and for how much. This allows you to see how profitable each Purchase Order or Master Tag was. This information shows what each customer purchased and how much profit was generated from that order, part, or tag.



During the Quoting and Order Entry process having historical cost and pricing data available for instant retrieval is critical to servicing the customer while you have them on the telephone. This comprehensive cost and pricing history is available only a mouse click away. **ERP Plus™** provides this depth of inventory information necessary in the metals industry.

Item Search		Attribute Search		Inventory Facility		Facility Invt. Supply	
Inventory Facility Detail			Inventory Location			LPN	
Order\Quote Line Number	Part Description	Doc Uom	Doc Qty	D\Unit Price	Addl Charges	P O #	Earliest date
100431 1	1/2XH 6061 ALUM PIPE	Pound	1800	1.62	10.00	ATT1	12/28/2
Tolerance = + .0250, DOCS = CERTS, PACK = Pallet, Yield = 1.0, Olsen = 1.0, SPECS = GM-1, FREIGHT = Fgt To Cust							
232	1 Galvanized CQ 70G/70G	POUND	100000	5.25	.00		
Width = 20.0, ID = 20, OD = 60.0, DOCS = NONE, PACK = Pallet, Yield = 11.0, Olsen = 0.0, SPECS = Toyota, Volumn = 250+ \ Coil LT 299, Master							
233	3 Galvanneal A25 DDS D26GA	POUND	5000	36.75	20.00		
Master Width = 36.41.9, WIDTH = Width, Volumn = 250+ \ Coil LT 299, FREIGHT = Fgt To Cust, FREIGHT = Harbor to Mich, SPECS = ASTMB, I							
233	2 ?	HUNDRED	100	2,002.50	.00		
FAMILY = V, Performance = DB, Coating = D5, Gauge = .062-.068 min CQ, Width = 24.35.9, FREIGHT = Fgt To Cust, FREIGHT = Harbor to Mich,							
234	1 Std Electro Galvanized	POUND	1	39.25	.00		
236	1 Galvanized 90G/90G .256	POUND	7400	.49	.00		
Width = 20.0, ID = 20, OD = 60.0, DOCS = NONE, PACK = Pallet, Yield = 1.0, Olsen = 0.0, SPECS = GM-1, Volumn = 250+ \ Coil LT 299, Master W							
245	1 Hi Str-DOMEK D25 DDS 026	POUND	420	5.88	10.00		
Width = 20.0, ID = 20, OD = 50.0, DOCS = CERTS, PACK = Pallet, Yield = 1.0, Olsen = 1.0, SPECS = GM-1, Volumn = 250+ \ Coil LT 299, Master V							

**Inventory is my biggest asset...How can I manage it better to improve profitability?**

Pose the following question to generic ERP providers: Does your solution automatically compare available inventory specifications like Width, Length, Gauge and Chemical and Physical properties against a customer's order specifications and show which pieces of inventory meet the customer specifications and which pieces do not? You already know the answer and that's part of the reason that general ERP just is not enough.


Order Header Maintenance		Order Line Maintenance		Order Totals		Shipping		Material Selection		Summary				
061P00500X-H-T6----		1/2XH 6061 ALUM PIPE		Line No : 1										
Tolerance = + .0250, DOCS = CERTS, PACK = Pallet, Yield = 1.0, Olsen = 1.0, SPECS = GM-1, FREIGHT = Fgt To Cust														
Qty Avail	Onhand	Total Reserved	Qty Required	Ord Reserved	Balance									
27000	28800	1800	1800	1800	0									
Move Ticket	Note	Pieces	Thick Dia	length	Qty Avail	Qty On Hand	Qty Reserved	Qty Allocated	Heat Number	Spec	Piece weight	TOLERANCE	DOCS	F
195432		200	1.000	144.000	27000	28800	1800	0	111	✓	144	.25	CERTS	Pallet

Part of the **Plus** in **ERP Plus™** is our Material Selection Optimizer. Our optimizer pre-filters inventory whose dimensions, chemical or physical properties do not match the order specifications. The current order is then nested with other open orders that can be produced from the same inventory result set. A cutting layout (shown below) to optimize yield is produced which identifies expected remnants. The expected remnants are highlighted allowing the sales staff to see when remnant will be created and the size of the remnant.

**Cutting Layout:**

20	20	20
20	20	20

## Order Details:

Order-Line Item(s) to Produce									
Order - Line No	Part	PCS	WIDTH	LENGTH	As Cut Size/ Weight/PCS	Q/C			
		2	20.000	X	500.000				
100418-2      2		Width = 20.0   ID = 20   OD = 10.0   DOCS = CERTS   PACK = Pallet   Yield = 1.0   Olsen = 1.0   SPECS = GM-1   Volumn = 250+ \ Coil LT 299   Master Width = 24-35.9   FREIGHT = Fgt To Cust							
CONTENNIAL MATERIAL HANDLING									
PO 100418									
CSR Ouellette, Todd									
Ship Date 10/22/2004									
Carrier UN		Next Oper   Process Key			Work Center				
Doc UOM Pound		300   PACK			900700				
Expected Remnants									
195423	R1	1		60	X	293.1508			
195424	R2	1		19.5	X	500			

MRP (Material Requirements Planning) sounds great to a business whose life blood depends on having the right inventory levels to satisfy customer requirements while minimizing cash expenditures. But traditional MRP systems only look at quantity on hand, demand quantity and on order quantity. Standard MRP will tell you if you have enough tonnage to meet the customer demand. But it won't tell you if the available tonnage that meets the specific customer dimensional specifications.

The MRP module within **ERP Plus™** recognizes when current demand cannot be satisfied by in stock inventory due to dimensional issues and includes that unsatisfied demand in its reorder messages. Recognition that inventory is *multi-dimensional* and *multi-faceted* is the first step in a giant leap to inventory management in the metals industry. The second step is ensuring that the enterprise solution is comprehensive, provides a solid technological foundation and provides solutions for these unique real-world business requirements.

### ***How can I more efficiently meet my customer's demand?***

Knowledge that you have the product the customer wants and that you can provide the value added services the customer desires still falls short if you can't effectively support the delivery of the product with the documentation. Each customer wants to be invoiced in their unit of measure of Pieces, Pounds, Hundred Weight, Lot, Kilo and more. Customers have specific labeling requirements, packaging requirements and materials handling capabilities. Finally, customers often require detailed Certification or Material Test Reports. If your software solution cannot handle these requirements seamlessly, the hidden administrative costs will quickly erode your profit margin. Verticent **ERP Plus™** supports the flawless execution of satisfying customers demand in the metals industry!

Order Header Maintenance | **Order Line Maintenance** | Order Totals | Shipping | Material Selection | Summary

Select By: Item Number

Line 1 Sub 0 Qty 1800 Item 061P Description PIPE 061 ALLOY Ship To: Centennial Material Handling Ship From: Skyline - Parsinippany - GRW

UOM: LB Ref: 061P00500XH-T6-1/2XH 6061 ALUM PIPE Manual Pricing Unit: 1.61500 \$

Drop Ship Pricing  Want On Site: 12/28/2004 Dates Discount Multiplier: .85000 \$

Drop Ship  Earliest Ship: 12/28/2004 Extended: 2907.00000 \$

Allow Lot Substitution  Promise: 12/31/2004 D Uom: Pound

Vendor Acknowledgment  Transaction Type: Sales Transaction D/Qty: 1,800.000

Warehouse Selection Override  Certificate Id: D/Unit: 1.6150

MTRNCerts Lot Number: Line Hold: No Hold Calc: 61.50 Markup: .00 % Cost: 1.00

Heat Number: Manufacturing Facility: Skyline - Kearny - GRP Calc: 38.08 Margin: .00 %

Revision Level: Taxable: No Tax Type: ST

L/N	Sub	CFG	Qty	UOM	Reference Part No	Reference Description	Notes	Ext Price	Promise Dt	PO#	Item	Status	Ship From	Cust. Ext. F
1	0	1	1800	LB	061P00500XH-T6-1/2XH	6061 ALUM PIPE	Y	2907	12/31/2004		061P	Fut-Repl	GRW	290

Tolerance = +- .0250, DOCS = CERTS, PACK = Pallet, Yield = 1.0, Olsen = 1.0, SPECS = GM-1, FREIGHT = Fgt To Cust

Automatically creating purchase orders for sub-contract services directly from the sales order, saves time, and improves profitability by insuring all tasks required are tracked and costed properly.

Shop floor data collection requires a simple, single point of entry for data capture! General ERP products typically do not address this requirement. **ERP Plus™** excels in this area through the following metals industry capabilities:

- 1.) Provide the Location, Heat, Size and Quantity of material to pull from inventory.
- 2.) Display the Finished Product, Scrap and Remnants they are expected to produce.
- 3.) Allow the employee to record actual products produced and to record the time expended to produce them.

**Move Ticket Create-100431-1-000**

Order No: 100431-1 Lot: 000 Operation: 100 Item No: 061P PIPE 061 ALLOY

Component: 061P00500XH-T6-1/2XH 6061 ALUM PIPE

Order Qty: 1800 Qty Complete: 0 Dept: 900 Qty Scrapped: 0 Balance: 1800

Employee No	Labor Code	Shift	Date Worked	Start Time	EndTime	Elapsed Time
100	Setup	1	12/29/2004 10:28:51	10:28		3

Move Ticket	V.Heat #	PIECES	WIDTH	LENGTH	FORM	ID	OD	Pull Qty	LOCATION	Finish Qt
195488	111	20		144				2880	01-B-1	18

Order No	Move Ticket	Type	PIECES	WIDTH	LENGTH	Qty	FORM	THICK/DIA	ID
100431-1	195488	Finish	20			1800			
	195488	Scrap				5			
	195488	Rem	20		53.75	1075	1		

In summary, before Verticent **ERP Plus™**, the market of ERP solutions for the metals industry consisted of two types of companies. First, the general ERP providers, who likely have a solid product, but not one that meets the dimensional inventory, chemical and physical properties requirements that are vital to the industry. Second, Metals specific industry solutions providers, who may address the complexities of the industry, but do not provide a sound technology platform, nor do they provide a complete front to back office enterprise footprint including Sales Force Automation, Business to Business e-Commerce and built in Business Intelligence.

The future demands a lean, technologically sound, integrated application solution. Such solutions must provide the complete dimensional, chemical and physical analytical tools to meet the expectations of a demanding industry! These analytical tools can only be found in Verticent's **ERP Plus™**.



**For more information:**

**Visit our website at [www.verticent.com](http://www.verticent.com)  
Call us toll free at 800.251.8449**

**Thailand contact:** [www.m-focus.co.th](http://www.m-focus.co.th)

**call:** (662) 5139892 ext. 123-128

**email:** [marketing@m-focus.co.th](mailto:marketing@m-focus.co.th)

**Verticent Inc.**

400 North Ashley Drive, Suite 2600  
Tampa, FL 33602  
[www.verticent.com](http://www.verticent.com)

Copyright (C) 2004 By Verticent Inc.  
All Rights Reserved