




WA105: Order Status IFAE

Thorsten Lux

PMT Shipment



- Carrier identified
- First offer received last summer
- Only new quotation will be needed
- Acrylic plates to protect photocathode surface and TPB coating during transport and storage already at IFAE

DELTRANSA
DELTA TRANSITARIO, S.A.
FORWARDING AGENT
TRANSITOS – ADUANAS – TRANSPORTE
COMERCIO EXTERIOR

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INSTITUT DE FISICA D'ALTES ENERGIES
 IFAE
 ATT. THORSTEN LUX

Barcelona a **20/07/2017**

QUOTATION **5399** Exportación Aérea

SHIPPER CIEMAT
 COMMODITY LABORATORY EQUIPMENT

ORIGIN **España**
 DESTINATION **Suiza**

PACKAGES 4 PALLETS
 TOTAL WEIGHT 180 KGS
 DIMENSIONS 145 X 60 X 53 CMS EACH PALLET

AIRFREIGHT MAD - GVA	537,74 Euros
SURCHARGES	244,89 Euros
CUSTOMS CLEARANCE " TEMPORARY EXPORT "	60,10 Euros
AIRPORT HANDLING	55,00 Euros
INLAND TRANSPORT	64,41 Euros
INSURANCE	1.000,00 Euros
TOTAL	1.962,14 Euros

NOTE: ARRIVAL AIRPORT GENEVE

BY TRUCK : DOOR TO DOOR SERVICE - 551,19 EUROS
Insurance 1000 €

Best Regards,
 Désirée Martin

Delta Transitario, S.A. "DELTRANSA"
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TPB Coating

- Until new schedule update still foreseen for April/May 2018
- Has to be done this year!
- TPB provider identified: Sigma-Aldrich
- New offer need to be requested
- Short delivery time (at least the last time)
- 5 g cost 230 Euro => will need probably 50-60 g

SIGMA-ALDRICH

sigma-aldrich.com

Ronda de Poniente, 3 Aptdo Correos 278
28760 Tres Cantos -Madrid- Teléfono 900101376 -
(34) 916619977
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OFERTA

NRO. OFERTA: 8203902514 INST.FISICA DE ALTAS ENERGIAS(IFAE)
Fecha/Válida hasta: 10.11.2015/10.11.2015-10.12.2015 CAMPUS UAB - EDFIF.CIENCIAS
Número de Cuenta: 35554818
CIF: ESQ5856257J 08193 BELLATERRA(BARCELONA)
SPAIN

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Fax No: 935811938
E-mail: thorsten.lux@ifae.es

Estimado Dr. Thorsten Lux,

Gracias por su solicitud de precios. Nos complace ofertar como sigue:

Producto/Unidad	Descuento	Cantidad	Precio Unidad	Precio Total	IVA	Entrega/Su ref
000010 185213-5G 1,1,4,4-TETRAPHENYL-1,3-BUTADIENE, SCIN-		EA 1,000	EUR 173,00/EA	EUR 173,00	% 21,0	

Resumen de cargos

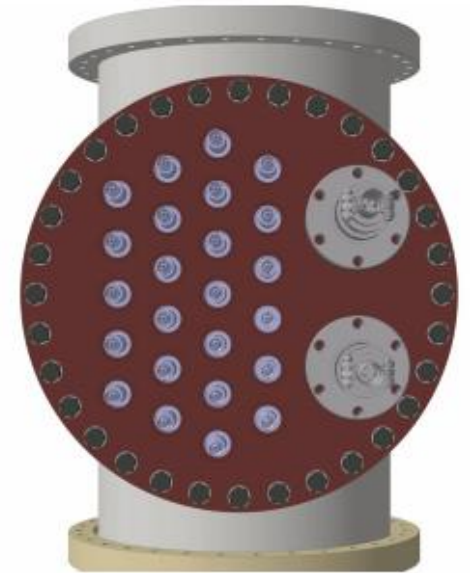
Servicios 15,00
Total cargos 15,00

Total IVA
IVA 21,0 % Importe Total :188,00 EUR al 21,0 % 39,48 EUR

MERCANCIA	173,00 EUR
CARGOS	15,00 EUR
IVA	39,48 EUR
TOTAL	227,48 EUR

SHV for Instrumentation Flange

- 36 SHV feedthroughs (242-SHVDF50 from Allectra) for PMT HV following web page 405 Euro each
- Not clear who will produce flange
- Bern told me Allectra but Sebastien told me that this is not guaranteed
- Waiting for Sebastien to give input for order
- Told me that flange is his smallest problem in respect of possible delay



flange A (HV+ power)

PMT HV Cables

- 36 PMT HV cables needed with singled sided SHV connector
- 2 Options: RG-303 or HTC-50-3-2
- RG-303 used in Double Chooz and inside cryostat but very expensive
- HTC-50-3-2 standard, red CERN HV cable much more cost effective
- Attenuation length similar for both as Antonio measured
- Currently planning to use HTC-50-3-2, also for cost scaling to final detector
- Base material will be ordered from CERN store and then assembled at IFAE
- Waiting for input from Yann-Axel for length => exact cable routing still not defined

		Max V (KV)	Diam (mm)	Temp	Price €/m	Cap (pF/m)	Insulation	Bend radius	Att (dB/m)			Length for 3dB att @200MHz	
SCEM									10MHz	100MHz	200MHz		
(Lemo)	04.61.11.145.5	COAXIAL CABLE 50 OHM - TYPE C-50-2-1	2	2,85	-10 to 70	0,51	101 XL-PE (Cross-linked polyethylene)		0,095		0,42		7,142857
	04.61.11.010.9	MINIATURE COAXIAL CABLE 50 OHM - POLYIMIDE	3	1,15	-200 to 20	8	125 Polyimide		25 (13MHz)				
HTC-50-3-2	04.31.51.750.1	COAXIAL HIGH-VOLTAGE CABLE 8 kVdc - WITHOUT PARTIA	8	5,2	-10 to 70	0,92	101 XL-PE	25 to 50 mm	0,045	0,15	0,21		14,28571
HTC-50-2-1	04.31.51.760.9	COAXIAL HIGH-VOLTAGE CABLE 9 kVdc (10)* - WITH PART.	9	4,6	-10 to 70	1,1	141 XL-PE	25 to 50 mm					
(Double-Chooz)		RG303/U	2,5	4,3	-65 to 165	8	FEP (Fluorinated ethyl)	25 to 50 mm		0,13	0,19		15,78947
(Icarus, MicroBooNe)		RG316/U	1,5	2,5	-65 to 165	3	97 FEP (Fluorinated ethyl)	15 to 37.5mm		0,25	0,4		7,5

Optical Fibers

- Various fibers were tested
- Favorite fiber diameter currently 400 or 600 μm
- Tubing probably stainless steel with black sheath => still to check bending radius with Thorlabs
- Length still not defined => as for PMT HV cables waiting for final routing from Yann-Axel
- For tests at CIEMAT some fiber samples are available
- Final fibers will be probably ordered afterwards (about 220 Euro per piece)

Item #	Core	NA	Wavelength Range ^a	Fiber Used
M65L	$\varnothing 10 \mu\text{m}$	0.10	400 to 550 nm and 700 to 1000 nm	FG010LDA
M68L	$\varnothing 25 \mu\text{m}$	0.10	400 to 550 nm and 700 to 1400 nm	FG025LJA
M14L	$\varnothing 50 \mu\text{m}$	0.22	400 to 2400 nm (Low OH)	FG050LGA
M96L	$\varnothing 105 \mu\text{m}$	0.10	400 to 2100 nm (Low OH)	FG105LVA
M15L	$\varnothing 105 \mu\text{m}$	0.22	400 to 2400 nm (Low OH)	FG105LCA
M92L	$\varnothing 200 \mu\text{m}$	0.22	250 to 1200 nm (High OH)	FG200UEA
M25L	$\varnothing 200 \mu\text{m}$	0.22	400 to 2200 nm (Low OH)	FG200LCC
M38L	$\varnothing 200 \mu\text{m}$	0.39	400 to 2200 nm (Low OH)	FT200EMT
M44L	$\varnothing 200 \mu\text{m}$	0.50	400 to 2200 nm (Low OH)	FP200ERT
M28L	$\varnothing 400 \mu\text{m}$	0.39	400 to 2200 nm (Low OH)	FT400EMT
M45L	$\varnothing 400 \mu\text{m}$	0.50	400 to 2200 nm (Low OH)	FP400ERT
M37L	$\varnothing 550 \mu\text{m}$	0.22	400 to 2200 nm (Low OH)	FG550LEC
M29L	$\varnothing 600 \mu\text{m}$	0.39	400 to 2200 nm (Low OH)	FT600EMT
M53L	$\varnothing 600 \mu\text{m}$	0.50	400 to 2200 nm (Low OH)	FP600ERT
M35L	$\varnothing 1000 \mu\text{m}$	0.39	400 to 2200 nm (Low OH)	FT1000EMT
M59L	$\varnothing 1000 \mu\text{m}$	0.50	400 to 2200 nm (Low OH)	FP1000ERT
M93L	$\varnothing 1500 \mu\text{m}$	0.39	300 to 1200 nm (High OH)	FT1500UMT
M107L	$\varnothing 1500 \mu\text{m}$	0.50	400 to 2200 nm (Low OH)	FP1500ERT

Summary

- PMT TPB Coating at CERN:
 - Shipment prepared and can be launched when needed
 - TPB supplier found and order can be placed when necessary
- SHV connectors for instrumentation flange: waiting for Sebastien
- PMT HV cables: pieces and their providers identified but waiting for input from Yann-Axel
- Provider of optical fibers identified => some more tests needed and waiting for input from Yann-Axel
- Manpower: 1 mechanical technician for PMT installation