

Materials List for:

High-pressure, High-temperature Deformation Experiment Using the New Generation Griggs-type Apparatus

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Materials

Name	Company	Catalog Number	Comments
Griggs-type apparatus	Sanchez Technologies (Corelab)	TRI-X 6/1500 SD	Solid-medium Griggs-type deformation apparatus
	Sanchez Technologies (Corelab)	Stigma pumps 1000/300 and 100/1500	hydraulic syringe pumps to apply pressure
Arbor press	Schiltz	PA.WZ.5000.530	Arbor press required to insert the sample assembly into the pressure vessel
Low-speed saw	Presi	Mecatome T180	Low-speed saw to cut alumina piston and mullite sheath
	Presi	LR02033	Diamond saw blade
40 tons hydraulic press	CompaC	APA 9040EH1-D	40-ton hydraulic press to press salt/lead pieces and extract the sample
Pressure vessel (and pistons)	STRECON	vessel A4071	Inner tungsten-carbide core inserted into a 1° conical steel ring and pre-stressed using the strip winding technique
	STRECON	Deformation piston	Tungsten carbide piston to apply deformation
	STRECON	Confining piston	Tungsten carbide piston to apply confining pressure
	STRECON	End-load piston	Tungsten carbide piston to pre-stress the pressure vessel
PUK U3	Lampert	PUK 5 welding microscope	Fine welding system to weld the thermocouple and platinum jacket
Cooling system Ultracool	Lauda	UC 4 E1 PI5 SR BSP °C	Cooler for the pressure vessel
	Lauda	Proline RP850	Cooler for the confining/end-load ram
Leath	Schneider electric	Eurotherm 2704	Temperature controller
Milling machine	Enerpac	P-142	Hand pump to lift up the confining/end-load ram
	HBM	1-P3TCP/2000 bar	Pressure transducer
	HBM	1-P3TCP/500 bar	Pressure transducer
	HBM	WA/10 mm	Displacement transducer
	HBM	WA/50 mm	Displacement transducer
	HBM	1-C2/200 kN	Load cell

	Geoscience instrument		Graphite furnace: graphite tube inserted between two pyrophyllite sleeves (custom-made)
	McDanel	MRD028330018858	Mullite Round Double Bore Tubing
	Morgan Advanced Materials	WH-Feuerfestkitt	Ceramic glue
	PRECIS	T90 L	Lathe
	NSK	EM-255	Diamond tool to parallelize alumina piston using the lathe
	Mecanelec	CDM – IP 1 – 5L/mn	Flow meter for water cooling (pressure vessel)
	Hedland	H602A-0005-F1	Flow meter for oil cooling (confining/end-load ram)
	Legris	Série 21	double-self-sealing coupler for tube of the water cooling system
	Corelab	Falcon	Software to monitor the hydraulic syringe pumps
	HBM	CatmanEasy-HP	Software to record data
	Schneider electric	Eurotherm itools	Software to set programs for the temperature controller
	VWR	410-0114	Ceramic mortar
	VWR	231-2322	Microspatule
	VWR	459-0206	Ceramic recipient
	VWR	AnalaR NORMAPUR 27810.364	Sodium Chloride 99.9% purity
	VWR	Barnstead/Thermoline 48000 furnace	Benchtop Muffle furnace for melting lead
	DP/Précision	Custom made	Tools needed to produce the salt and lead pieces
	Cincinnati	TYPE PE-5	Milling machine
	Memmert	UNB 400	Oven to stock salt powder and salt pieces
	Otelo	Otelo 65220023	Tubing cutter for Platinum
	Otelo	BAITER 51600202	File tool
	Otelo	VADIUM 65172600	Diagonal micro-cutter
	Otelo	VADIUM 65172620	Flat needle nose micro-pliers
	SAM	EMP-13J	Round screw hollow punch
	Professional Platic	Chemfluor MFA Tube	Minitube for isolating thermocouple wires
	Radiospar	RS 370-6717	S-type flat pin thermocouple connector
	LEMER		Lead (bulk)
	Goodfellow	FP301305	Polytétrafluoroéthylène - Film ; 0.15 mm thickness
	Heraeus	81128696	Pure Platinum wire
	Heraeus	81128743	Platinum90%/Rhodium10% wire
	Alfa Aesar	M11C056	Nickel foil 0.025 thickness annealed 99.5%
	DP/precision		Tools to produce the salt pieces and lead piece (custom-made)
	Polyco Bodyguards	GL890	Blue Nitrile Medical Examination gloves