



- ◆ REBCO: B || Tape plane
- ◆ REBCO: B ⊥ Tape Plane
- ◆ Bi-2212: 50 bar OP
- ◆ Bi-2223: B || Tape Plane
- ◆ Bi-2223: B ⊥ Tape Place
- Bi-2223: B ⊥ Tape plane (carr. cont.)
- Bi-2223: B ⊥ Tape plane (prod.)
- Nb<sub>3</sub>Sn: Internal Sn RRP®
- ⊕ Nb<sub>3</sub>Sn: High Sn Bronze
- ⊗ Nb-Ti: LHC 1.9 K
- ⊗ Nb-Ti: LHC 4.2 K
- ⊗ Nb-Ti: High Field MRI 4.22 K
- ▲ MgB<sub>2</sub>: 18+1 Fil. 13 % Fill

## References (updated 1/4/2021)

YBCO: Tape, || Tape-plane, SuperPower. REBCO: SP26 tape, 50  $\mu\text{m}$  substrate, 7.5%Zr. Measured at NHMFL by Valeria Braccini, Jan Jaroszynski and Aixia Xu: DOI: 10.1088/0953-2048/24/3/035001

YBCO: Tape,  $\perp$  Tape-plane. REBCO: SP26 tape, 50  $\mu\text{m}$  substrate, 7.5%Zr. Measured at NHMFL by Valeria Braccini, Jan Jaroszynski and Aixia Xu: DOI: 10.1088/0953-2048/24/3/035001

Bi-2223: B || Tape plane: Sumitomo Electric Industries. Measured at NHMFL (D. Abraimov) unpublished

Bi-2223 (Carrier Controlled): B  $\perp$  Tape-plane "DI" BSCCO "Carrier Controlled" Sumitomo Electric Industries (MEM'13 presented by Kazuhiko Hayashi).

Bi-2223 (2012 production): B  $\perp$  Tape-plane "DI" BSCCO (measured at NHMFL by Jianyi Jiang and Dmytro Abraimov Oct. 2013).

2212: OST NHMFL 50 bar overpressure HT. Sample pmm170123, 0.78 mm Diam. (after HT) , OST 55x18 composite using nGimat powder. Jiang J, Bradford G, Hossain SI, Brown MD, Cooper J, Miller E, Huang Y, Miao H, Parrell JA, White M, Hunt A, Sengupta S, Revur R, Shen T, Kametani F, Trociewitz UP, Hellstrom EE, Larbalestier DC (2019) High-Performance Bi-2212 Round Wires Made With Recent Powders. IEEE Transactions on Applied Superconductivity, 29(5):1–5. DOI: 10.1109/TASC.2019.2895197

Nb-47Ti: 0-6 T - Boutboul et al. MT-19: Boutboul, T.; Le Naour, S.; Leroy, D.; Oberli, L.; Previtali, V.; , "Critical Current Density in Superconducting Nb-Ti Strands in the 100 mT to 11 T Applied Field Range," Applied Superconductivity, IEEE Transactions on , vol.16, no.2, pp.1184-1187, June 2006. DOI: 10.1109/TASC.2006.870777

Nb-47Ti 1.8 K 5-8 T Maximal for whole LHC NbTi strand production (CERN-T. Boutboul '07)

Nb-47Ti 4.2 K for the LHC insertion quadrupole strand (T. Boutboul, S. Le Naour, D. Leroy, L. Oberli, and V. Previtali, "Critical Current Density in Superconducting Strands in the 100 mT to 11 T Applied Field Range," IEEE Transactions on Applied Superconductivity, vol. 16, no. 2, pp. 1184–1187, Jun. 2006 DOI: 10.1109/TASC.2006.870777)

Nb-47Ti 4.22 K for 11.75 T Iseult/INUMAC MRI: Kanithi H, Blasiak D, Lajewski J, Berriaud C, Vedrine P and Gilgrass G 2014 Production Results of 11.75 Tesla Iseult/INUMAC MRI Conductor at Luvata IEEE Transactions on Applied Superconductivity 24 1–4 DOI: 10.1109/TASC.2013.2281417

Nb<sub>3</sub>Sn (RRP®): Non-Cu Jc Internal Sn OI-ST RRP® 1.3 mm, Parrell, J.A.; Youzhu Zhang; Field, M.B.; Cisek, P.; Seung Hong; "High field Nb<sub>3</sub>Sn conductor development at Oxford Superconducting Technology," Applied Superconductivity, IEEE Transactions on , vol.13, no.2, pp. 3470- 3473, June 2003.

DOI: 10.1109/TASC.2003.812360 and Nb<sub>3</sub>Sn Conductor Development for Fusion and Particle Accelerator Applications J. A. Parrell, M. B. Field, Y. Zhang, and S. Hong, AIP Conf. Proc. 711, 369 (2004), DOI: 10.1063/1.1774590.

Nb<sub>3</sub>Sn (High Sn Bronze): T. Miyazaki et al. MT18 - fig3, Miyazaki, T.; Kato, H.; Hase, T.; Hamada, M.; Murakami, Y.; Itoh, K.; Kiyoshi, T.; Wada, H.; , "Development of high Sn content bronze processed Nb<sub>3</sub>Sn superconducting wire for high field magnets," Applied Superconductivity, IEEE Transactions on , vol.14, no.2, pp. 975- 978, June 2004, DOI: 10.1109/TASC.2004.830344

MgB<sub>2</sub>: 18 Filament - The OSU/HTRI C 2 mol% AIMI ("Advanced Internal Mg Infiltration") 33.8 Filament to strand ratio, 39.1% MgB<sub>2</sub> in filament. (DOI: 10.1088/0953-2048/25/11/115023)

G. Z. Li, M. D. Sumption, J. B. Zwyer, M. A. Susner, M. A. Rindfleisch, C. J. Thong, M. J. Tomsic, and E. W. Collings, "Effects of carbon concentration and filament number on advanced internal Mg infiltration-processed MgB<sub>2</sub> strands," Superconductor Science and Technology, vol. 26, no. 9, p. 095007, Sep. 2013.